



# Preparation Guide

This guide explains how to set up your environment for the Storage beta, with particular emphasis on server and network requirements. It also gives an overview of the Storage platform and includes some important notes about terms & conditions of the beta, and how the install process works.

<b>Document version</b>	1.0
<b>Document release date</b>	31 <sup>st</sup> May 2012
	<a href="#">document revisions</a>

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# 1. Introduction & important notes

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The OnApp Storage beta is based on a specific build of OnApp Cloud v2.3.2, which is provided free of charge for the purpose of testing the Storage beta.

## 1.1 OnApp Storage beta restrictions

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You'll be required to agree to the full terms and conditions of the Storage beta before you can begin your install, but for reference, the most important points to note are:

- You may not use the OnApp Storage beta platform for a production environment (in other words, you can't use it to sell cloud or storage services.)
- You cannot use an existing OnApp Cloud (full or free version) to test the OnApp Storage beta – you need the version specifically provided for the beta test, as a fresh install, with its own license key.
- The platform is provided only for the duration of the beta, and will be disabled when OnApp Storage reaches General Availability.
- We will keep you informed of the end date of the beta, which is likely to be towards the end of Q3 2012.
- Not all OnApp Cloud functionality is available in the beta: backup is disabled; resizing VM disks is disabled; disk overcommit is disabled.
- Some elements of Storage functionality are not yet fully present in the beta - for example, the ability to remove/add physical drives to hypervisors, which currently requires you to reboot the HV manually (in future this will be handled via the UI)

## 1.2 How the installation process works

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We've had several hundred people sign up for the beta, so we're rolling it out in phases . The install process is relatively straightforward.

### 1. **First you need an OnApp dashboard account:**

- Existing customers should already have a dashboard account – otherwise, they should contact support.
- If you're not an existing OnApp customer, we'll create an account for you. You'll get an account activation email when your beta is about to begin – just follow the instructions in the email.

Once you have a dashboard account you'll have read access to the forums at <http://forum.onapp.com>, including the OnApp Storage beta forum.

## 2. **Next, you'll set up a Storage beta license in the dashboard:**

- If you already have OnApp products:
  - Log in and go to the Account -> Cloud Licenses screen
  - Click the *Add a new license* button
  - Choose Storage from the license type drop-down
  - Specify an external IP for your Storage beta Control Panel
  - Agree to the Storage Beta Product Agreement
  - Click the Create License button
  
- If you don't have existing OnApp products:
  - Log in to the dashboard – you'll be prompted to add a license
  - Choose Storage from the license type drop-down
  - Specify an external IP for your Storage beta Control Panel (see the note below)
  - Agree to the Storage Beta Product Agreement
  - Click the Create License button

When you create the license you'll see your license key details on screen, along with a link to the installation & user guide. These will also be sent to you via email. The license also gives you automatic write access to the Storage beta forum, where you can get support.

## 3. **Follow the instructions in the install & user guide:**

- The guide includes:
  - The preparation information in this document
  - Instructions for downloading and installing the Storage beta software
  - How to set up your initial Storage system using the OnApp Control Panel
  - An overview of the functionality specific to the OnApp Storage beta

*ⓘ A note about the external IP field in the dashboard... the OnApp Storage platform requires a connection to our licensing server for license activation and ongoing authorization. Your license is tied to your external IP address, and you cannot get a license without one.*

## 1.3 Getting support

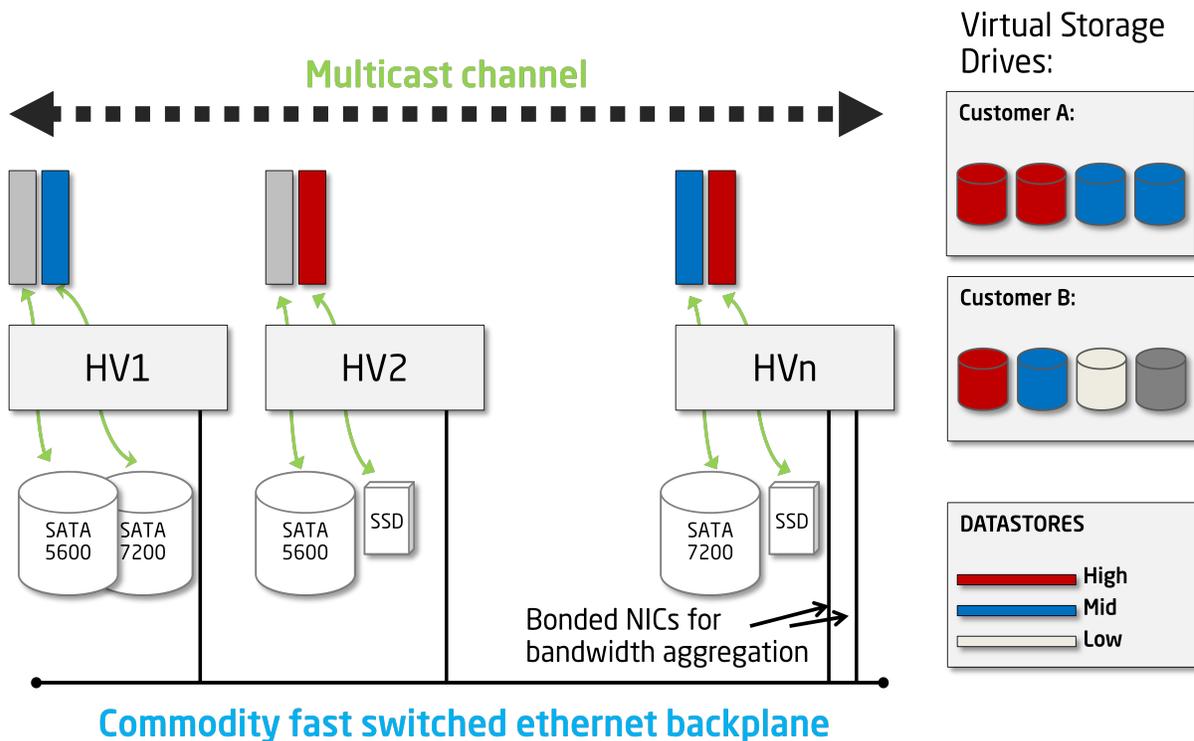
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Support for the OnApp Storage beta is provided on a 'best effort' basis via <http://forum.onapp.com>. Members of our storage and support teams will monitor and contribute to discussions. You'll automatically get a forum account as part of the dashboard/beta activation process.

## 2. OnApp Storage system overview

OnApp Storage is a distributed block storage system that allows you to build a highly scalable and resilient SAN using local disks in hypervisors.

With OnApp Storage you create a virtual data store that spans multiple physical drives in hypervisors, with RAID-like replication and striping across drives. The SAN is fully integrated into the hypervisor platform, and the platform is completely decentralized. There is no single point of failure: for example, if a hypervisor fails, the SAN reorganizes itself and automatically recovers the data.



## 3. Server requirements

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This chapter explains the minimum server requirements for an OnApp Storage beta install.

### 3.1 Control Panel server (OnApp Controller)

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

*① The OS should be a base installation of CentOS 5.X x64 with the standard repositories enabled. If you have additional repositories enabled, please disable them before installing.*

*① Full root access: please do not create the user 'onapp' since this is created by the RPM install.*

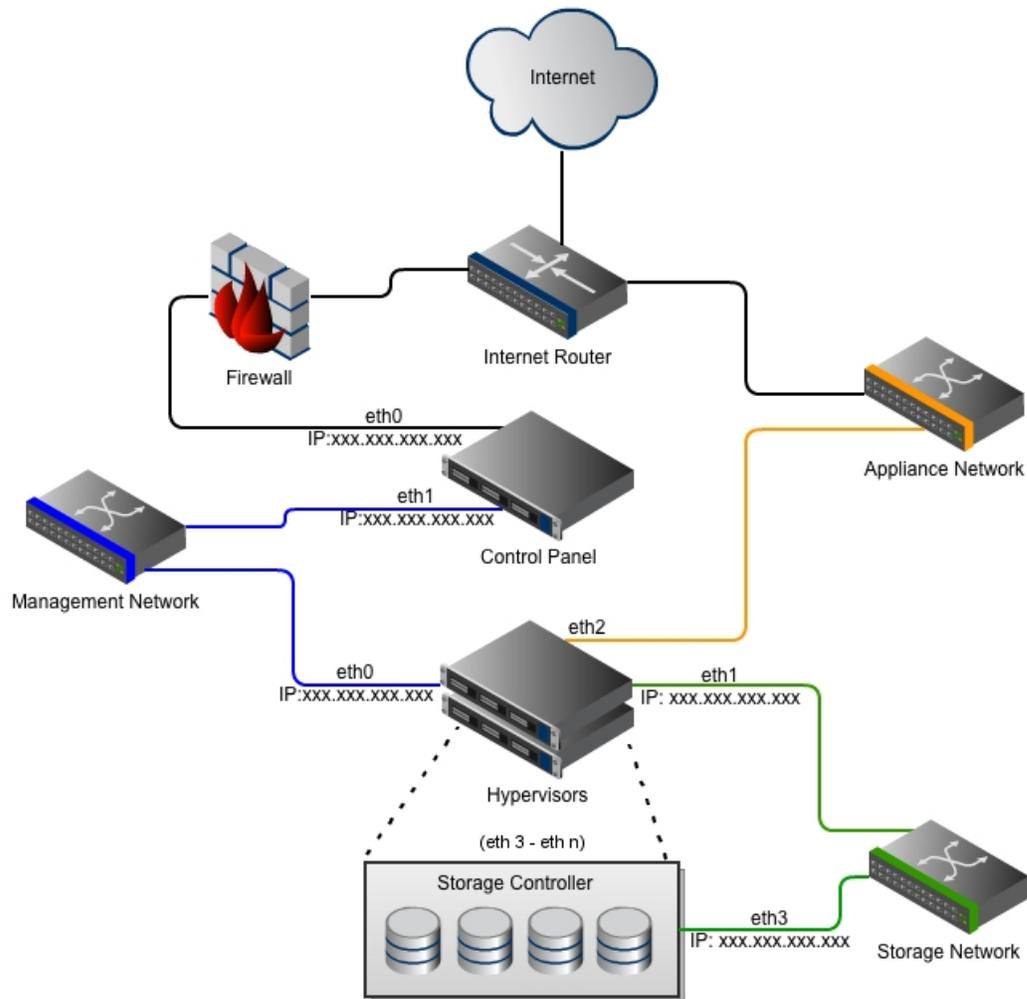
### 3.2 Hypervisors

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- 8GB+ RAM
- Quad Core 2Ghz+
- Any SATA/SSD hard drives
- 3+ NICS:
  - NIC1 - management network
  - NIC2 - storage network
  - NIC3 - appliance network
  - NIC4 – NIC *n* (if available) assigned to storage

## 4. Network configuration

The OnApp Storage beta requires a slightly different network config compared to a standard OnApp Cloud install. There are three core networks required: the storage, management and appliance networks. The network layout is illustrated below, and each network's role is explained in the following sections.



It is very important to separate the 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. The following sections explain each network's role in more detail.

## 4.1 Storage network

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This network handles traffic for the distributed storage system. 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.

## 4.2 Management network

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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 isolated, non-routable, and not Internet-facing. Only the Controller server interface needs to be Internet facing – the management subnet should be an isolated segment.
- 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.*

## 4.3 Appliance network

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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. 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.

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

## Appendix: document revisions

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### **v1.0, 31<sup>st</sup> May 2012**

- First release