OnApp Cloud 6.2 Edge 2 Upgrade Guide

Table of Contents

This guide provides instructions on how to upgrade OnApp Cloud to the 6.2 Edge 2 version. You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1. OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments.

Upgrade from OnApp 6.1

- [Upgrade Control Panel Server](#)
- [Upgrade Cloud with CloudBoot Servers](#)
- [Upgrade Cloud with Static Servers](#)
- [Upgrade Cloud with CloudBoot and Static Servers](#)
- [Upgrade Integrated Storage](#)

Upgrade from OnApp 6.2 Edge 1

- [Upgrade Control Panel Server](#)

1 What's New

The OnApp Cloud 6.2 Edge 2 release provides new features and improvements. You can find the list of all key enhancements at Release Notes.

1.1 NSX Integration

With NSX-v integration used for vCloud edge gateways or vCenter edges, you get flexible network configuration managed in OnApp interface. Apart from that, NSX-v provides network isolation as well as the ability to build edge gateway services on the top. With the help of NSX, you can configure the following services for each edge or edge gateway:

- **Firewall** monitors the North-South traffic to provide perimeter security functionality.

- **Load balancer** enables high-availability service and distributes the network traffic load among multiple servers.

- **NAT rules** translate the IP addresses and ports of your not to expose them to external network.

- **VPN**: IPSec site-to-site VPN and L2 server-client VPN allow to retain and secure network communication between different instances according to your needs.

1.2 Network Appliance Support

Starting from OnApp 6.2 Edge 2, you have the possibility to create virtual servers from OVA template based on Network Appliance operating system. Additionally, you receive access to advanced configuration for OVA VSs to add and edit primary config and license files if you need to.

2 Upgrade Notes.

OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments. You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1. Before upgrading to OnApp 6.2 Edge 2, read these upgrade notes to get ready for the upgrade.

2.1 Control Panel Server

- Check the Activity Log on your OnApp CP dashboard if there are no transactions running on your cloud. Wait until all transactions are completed before proceeding to the upgrade.

- Make sure no Control Panel files are open for editing under the root user account.

- If you use an isolated license, you need to manually sync with the dashboard by downloading a validation request and then uploading a validation response after the Control Panel upgrade. For more information on how to do this, refer to the License guide.

- If you use custom languages on your CP, after the update follow the procedure at How to import custom languages after an upgrade to import a custom locale.

- If you plan to deploy Accelerator, refer to the RabbitMQ Configuration for Accelerator document for more details.

2.2 Static Compute Resources

- Be aware that OnApp does not support UEFI on static compute resources. You should disable UEFI on your compute resources before the upgrade.

- If you are running OnApp version prior to 5.4 and consider upgrade, note that starting from OnApp 5.4, it is allowed to attach only one network to a NIC, and different networks can be assigned to the same NICs if their VLANs are different. If you attach more than one network to the same NIC, all of them will be displayed in the interface, but only one will work.

2.3 CloudBoot Compute Resources

- If you use Integrated Storage, refer to Upgrade Integrated Storage for more information about the upgrade details.

- If you use the auto-healing functionality for Integrated Storage, make sure to disable it before the upgrade.

- Drives assigned for use by Integrated Storage are identified, using a disk signature that is generated by the SCSI page query mechanism to the device. Please note that disk signatures may change across different kernel versions following an upgrade and reboot. If this occurs, go to the compute resource edit page to re-identify and select the correct drives. Please contact support if you have any concerns regarding this operation.

- In OnApp 6.1, Huge Pages are replaced by Transparent Huge Pages by default on all CloudBoot compute resources.

3 Upgrade from 6.1

The guides in this section apply to upgrading to OnApp 6.2 Edge 2 from the 6.1 version.

3.1 Upgrade Guide for Control Panel Server.

- OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments.

- You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1.

This guide provides an instruction how to upgrade you Control Panel server from OnApp Cloud 6.1 to 6.2 Edge 2. Please follow the complete procedure of the upgrade process. All packages must belong to the same major version to ensure the best performance of your cloud.

See also:

Upgrade Cloud with CloudBoot Servers
Upgrade Cloud with Static Servers.

3.1.1 Upgrade Control Panel Server

3.1.2

- Installer output is redirected to ./onapp-cp-install.log

- All installer critical errors are in located at /var/log/messages

To upgrade your Control Panel server:

1. Download the OnApp YUM repository file:

   ```
   # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-6.2.noarch.rpm
   ```
2. Upgrade OnApp Control Panel installer package

   ```
   # yum update onapp-cp-install
   ```
3. Update your server OS components (if required):

   ```
   # /onapp/onapp-cp-install/onapp-cp-install.sh -y
   ```
4. *(Optional)* If you need some custom Control Panel configuration, set the values before the installer script runs.

   The list of custom configuration options for Control Panel.

   ```
   # vi /onapp/onapp-cp.conf
   ```
   Template server URL

   ```
   TEMPLATE_SERVER_URL='http://templates-manager.onapp.com';
   ```
   # IPs (separated with coma) list for the SNMP to trap. This is the list of Control Panel IP addresses on which the traps sent from the compute resources are processed.

   ```
   SNMP_TRAP_IPS=""
   ```
   # OnApp Control Panel custom version

   ```
   ONAPP_VERSION=""
   ```
   # OnApp MySQL/MariaDB connection data (database.yml)

```
ONAPP_CONN_WAIT_TIMEOUT=15
ONAPP_CONN_POOL=30
ONAPP_CONN_RECONNECT='true'
ONAPP_CONN_ENCODING='utf8'
```

MySQL/MariaDB server configuration data (in case of local server)

```
MYSQL_WAIT_TIMEOUT=604800
MYSQL_MAX_CONNECTIONS=500
MYSQL_LIMITNOFILE=8192
```

Use MariaDB instead of MySQL as OnApp database server (Deprecated parameter. If you set any values for this parameter, they will not take effect)

```
WITH_MARIADB=0
```

#Configure the database server relative amount of available RAM

```
TUNE_DB_SERVER=1
```

The number of C data structures that can be allocated before triggering the garbage collector. It defaults to 8 million. Only change this value if you understand what it does.

```
RUBY_GC_MALLOC_LIMIT=16000000
```

sysctl.conf net.core.somaxconn value

```
NET_CORE_SOMAXCONN=2048
```

The root of OnApp database dump directory (on the Control Panel box)

```
ONAPP_DB_DUMP_ROOT=""
```

Remote server's (to store database dumps) IP, user, path, openssh connection options and number of dumps to keep

```
DB_DUMP_SERVER=""
DB_DUMP_USER="root"
DB_DUMP_SERVER_ROOT="/onapp/backups"
DB_DUMP_SERVER_SSH_OPT="-o StrictHostKeyChecking=no -o
UserKnownHostsFile=/dev/null -o PasswordAuthentication=no"
KEEP_DUMPS=168
DB_DUMP_CRON='40 * * * *'
```

Enable monit - tool for managing and monitoring Unix systems

```
ENABLE_MONIT=1
```

If enabled (the 1 value is set) - install (if local box) and configures RabbitMQ Server (messaging system) for the vCloud support. (Deprecated parameter. If you set any values for this parameter, they will not take effect)

```
ENABLE_RABBITMQ=1
```

Rotate transactions' log files created more than TRANS_LOGS_ROTATE_TIME day(s) ago

```
TRANS_LOGS_ROTATE_TIME=30
```

Maximum allowed for uploading file size in bytes, from 0 (meaning unlimited) to 2147483647 (2GB). Default is 0.

```
MAX_UPLOAD_SIZE=0
```

Timeout before ping Redis Server to check if it is started. Default is 10 sec.

```
REDIS_PING_TIMEOUT=10
```

OnApp Control Panel SSL certificates (please do not change if you aren't familiar with SSL certificates)

* The data below to generate self-signed PEM-encoded X.509 certificate

```
SSL_CERT_COUNTRY_NAME=UK
SSL_CERT_ORGANIZATION_NAME='OnApp Limited'
SSL_CERT_ORGANIZATION_ALUNITNAME='OnApp Cloud'
SSL_CERT_COMMON_NAME=`hostname --fqdn 2>/dev/null`
```

SSLCertificateFile, SSLCertificateKeyFile Apache directives' values

ssl_certificate, ssl_certificate_key Nginx directives' values

```
SSLCERTIFICATEFILE=/etc/pki/tls/certs/ca.crt
SSLCERTIFICATECSRFILE=/etc/pki/tls/private/ca.csr
SSLCERTIFICATEKEYFILE=/etc/pki/tls/private/ca.key
```
* PEM-encoded CA Certificate (if custom one exists)
SSLCACertificateFile, SSLCertificateChainFile Apache directives' values
ssl_client_certificate Nginx directives' values

```
SSLCACERTIFICATEFILE=""
SSLCERTIFICATECHAINFILE=""
```
SSLCipherSuite, SSLProtocol Apache directives' values

ssl_ciphers, ssl_protocols Nginx directives' values

```
SSLCIPHERSUITE=""
SSLPROTOCOL=""
```
5. Run the Control Panel installer:
```
# /onapp/onapp-cp-install/onapp-cp-install.sh
```
Please, answer 'yes' when installer prompts to initiate images, templates, and ISOs download.

The full list of installer options for Control Panel.

Usage:
```
/onapp/onapp-cp-install/onapp-cp-install.sh [-c CONFIG_FILE] [--
mariadb | --community | --percona | --percona-cluster] [-m MYSQL_HOST]
[--mysql-port=MYSQL_PORT] [--mysql-sock[=MYSQL_SOCK] [-p MYSQL_PASSWD]
[-d MYSQL_DB] [-u MYSQL_USER] [-U ADMIN_LOGIN] [-P ADMIN_PASSWD] [-F
ADMIN_FIRSTNAME] [-L ADMIN_LASTNAME] [-E ADMIN_EMAIL] [-v
ONAPP_VERSION] [-i SNMP_TRAP_IPS] [--redis-host=REDIS_HOST] [--redis-
bind[=REDIS_BIND] [--redis-passwd[=REDIS_PASSWD] [--redis-
port=REDIS_PORT] [--redis-sock[=REDIS_SOCK] [--rbthost RBT_HOST] [--
vcdlogin VCD_LOGIN] [--vcdpasswd VCD_PASSWD] [--vcdvhost VCD_VHOST]
[--rbtlogin RBT_LOGIN] [--rbtpasswd RBT_PASSWD] [-a] [-y] [-D] [-t]
[--noservices] [--ha-install] [--rake=RAKE_TASKS] [-h]
```

Where:

Database server options:	Default database SQL server is MySQL Server. Please use one of the following option to install LOCALLY.
--mariadb	MariaDB Server
--community	MySQL Community Server
--percona	Percona Server
--percona-cluster	Percona Cluster
MYSQL_*	Options are useful if MySQL is already installed and configured.
-m MYSQL_HOST	MySQL host. Default is 'localhost'
--mysql-port=MYSQL_PORT	TCP port where MySQL Server serves connections. Default values is 3306 for the local installation
--mysql-sock[=MYSQL_SOCK]	Unix socket on which MySQL Server serves connections. Default values is /var/lib/mysql/mysql.sock. Used if local server only. The socket is unset if the option's argument isn't specified.
-p MYSQL_PASSWD	MySQL password. Random is generated if is not set or specified.

-d MYSQL_DB	OnApp MySQL database name. Default is 'onapp'
-u MYSQL_USER	MySQL user. Default is 'root'
REDIS_*	Options are useful if Redis Server is already installed and configured.
--redis-host=REDIS_HOST	IP address/FQDN where Redis Server runs. It is used by Control Panel to connect to Redis Server. The Redis Server will be installed and configured on the current box if localhost/127.0.0.1 or box's public IP address (listed in SNMP_TRAP_IPS) is specified. Default value is 127.0.0.1. If local Redis, it will serve as well on the unix socket 'PORT' (if --redis-sock without argument isn't specified).
--redis-bind[=REDIS_BIND]	The IP address for Redis Server to serve connections (to listen). The option isn't mandatory.
--redis-port=REDIS_PORT	Redis Server listen port. Defaults are: 0 - if local server 6379 - if remote server
--redis-passwd[=REDIS_PASSWD]	Redis Server password to authentificate. Random password is generated if the option's argument isn't specified. By default no password is used for local Redis.
--redis-sock[=REDIS_SOCK]:	Path to the Redis Server's socket. Used if local server only. Default is /var/run/redis/redis.sock. The socket is unset if the option's argument isn't specified.
ADMIN_*	Options are used to configure OnApp Control Panel administrator data. Please note, that these options are for NEW INSTALL only and not for upgrade
-P ADMIN_PASSWD	CP administrator password
-F ADMIN_FIRSTNAME	CP administrator first name
-L ADMIN_LASTNAME	CP administrator last name
-E ADMIN_EMAIL	CP administrator e-mail
--rbthost RBT_HOST	IP address/FQDN where RabbitMQ Server runs. The RabbitMQ will be installed and configured on the current box if localhost/127.0.0.1 or box's public IP address (enlisted in SNMP_TRAP_IPS) Default value is 127.0.0.1.
VCD_*	Options are usefull if vCloud/RabbitMQ are already installed and configured.
--vcdlogin VCD_LOGIN	RabbitMQ/vCloud user. Default value is 'rbtvcd'.
--vcdpasswd VCD_PASSWD	RabbitMQ/vCloud user password. The random password

	is generated if isn't specified.
--vcdvhost VCD_VHOST	RabbitMQ/vCloud vhost. Default value is '/'
RBT_*	Options are used to configure RabbitMQ manager account. If local RabbitMQ server.
--rbtlogin RBT_LOGIN	RabbitMQ manager login. The default value is 'rbtmgr'.
--rbtpasswd RBT_PASSWD	RabbitMQ manager password. The random password is generated if isn't specified.
--rake RAKE_TASKS	List of OnApp Control Panel rake tasks (separated with space) to run at the very end of install or upgrade.
-v ONAPP_VERSION	Install custom OnApp CP version
-i SNMP_TRAP_IPS	IP addresses separated with coma for snmp to trap
-y	Update OS packages (except of OnApp provided) on the box with 'yum update'.
-a	Is not interactive. Process with automatic installation. Please note, this will continue OnApp Control Panel install/upgrade even if there is transaction currently running.
-t	Add to the database and download Base Templates. For new installs only. If this option is not used, then only the following mandatory System Templates will be added by default during fresh install: OnApp CDN Appliance; Load Balancer Virtual Appliance; Application Server Appliance.
--noservices	Do not start OnApp services: monit, onapp and httpd Please note, crond and all OnApp's cron tasks remain running. They could be disabled by stopping crond service manually for your own risk.
-D	Do not make database dump, and make sure it is disabled in the cron and not running at the moment.
--quick|--quick-update[=SERVICE]	Procceed with quick update procedure. This will skip update and configuration for services, such as system packages, MySQL database, Redis Server, RabbitMQ Server, and Monit service. Set the SERVICE parameter (space separated list of statements) to define services, which need to be updated. Possible reserved statements are: *rpms* - for 'system packages' upgrade; *mysql* - for MySQL databse upgrade ond configuring; *redis* - for ERedis Server upgrade and configuring; *rabbitmq* - for RabbitMQ Server upgrade and configuring; *monit* - for Monit upgrade and configuring.
--accept-eula	Automatically accept OnApp's End User License Agreement.
-c CONFIG_FILE	Custom installer configuration file. Otherwise, preinstalled one is used.
-h	Print this info

3.2 Upgrade Cloud with CloudBoot Servers.

- OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments.

- You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1.

This guide provides a walk-through on how to upgrade OnApp Cloud 6.1 to 6.2 Edge 2 for a cloud where all servers are CloudBoot. Please follow the complete procedure of the upgrade process. All the packages (Control Panel and CloudBoot compute resources) must belong to the same major version to ensure the best performance of your cloud.

On this page:

- Upgrade Control Panel Server
- Upgrade CloudBoot Packages
- Upgrade CloudBoot Backup Servers
- Upgrade CloudBoot Compute Resources
- Local Read Policy

See also:

- Upgrade Guide for Control Panel Server
- Upgrade Cloud with Static Servers

3.2.1 Upgrade Control Panel Server

To upgrade the Control Panel server, follow the procedure at **Upgrade Guide for Control Panel Server**.

3.2.2 Upgrade CloudBoot Packages

Before you begin:

- Create a backup of the /tftpboot directory in case the storage packages rollback is needed.
- Power off Windows virtual servers before proceeding to the following procedures.
- Make sure to run all the commands on the Control Panel host.

To upgrade the OnApp Storage packages:

1. Download the OnApp YUM repository file:

```
# rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-6.2.noarch.rpm
```

2. Update the *onapp-store-install* package:

```
# yum update onapp-store-install
```

3. Update the following packages:

```
# yum update onapp-ramdisk-centos6-xen
# yum update onapp-ramdisk-centos6-kvm
# yum update onapp-ramdisk-centos7-xen
# yum update onapp-ramdisk-centos7-kvm
# yum update onapp-ramdisk-centos7-default
```
After the packages installation, go to the Control Panel > **Settings** menu > **Configuration** and click the **Save Configuration** button.

4. Run the script:

```
# /onapp/onapp-store-install/onapp-store-install.sh
```
When running in the interactive mode, enter the required information.

Be aware that the disk-less nodes password is the root password for the CloudBoot compute resources. By default it is blank.

3.2.3 Upgrade CloudBoot Backup Servers

Make sure to update CloudBoot packages on your Control Panel server before proceeding to the upgrade of CloudBoot backup servers.

CloudBoot backup servers are CloudBoot KVM compute resources that can be used as backup servers. The CloudBoot backup server upgrade procedure is almost the same as the CloudBoot compute resource upgrade. Follow the instructions provided in this section to upgrade CloudBoot backup servers in your cloud.

Once you have upgraded the CloudBoot dependencies, you have to reboot your CloudBoot compute resource to update the Cloud Boot RPM. You do not need to perform any backup server upgrade operations using console.

To do so:

1. Go to your Control Panel **Settings** > **Compute Resources** menu.

2. Click the label of the CloudBoot compute resource the backup server is based on.

3. On the compute resource details screen, click the **Actions** button, then click **Reboot Compute resource.**

4. A new screen will open asking for confirmation before reboot:

    o **Are you sure you want to reboot this compute resource?** Confirm that you want the compute resource to reboot.

5. When you're certain you want to proceed with the reboot, click the **Reboot** button.

6. Repeat these steps for all CloudBoot backup servers in your cloud.

7. Once all are rebooted, proceed to CloudBoot compute resources upgrade.

3.2.4 Upgrade CloudBoot Compute Resources

Depending on the infrastructure, scale and needs of your cloud we suggest the following methods of upgrading CloudBoot compute resources:

Simple Reboot	This method is the simplest method technically. It also ensures all tools are updated. However, it will result in some limited downtime (its duration depends on how many virtual servers are running on each compute resource).
Migrate and	This method involves migrating all virtual servers off each CloudBoot compute

Reboot **For Xen only the** *cold* **migrate option is available.**	resource in turn. The compute resource can then be safely rebooted, picking up the upgraded Integrated Storage and CloudBoot packages. Virtual servers that do not support hot migrate will have to be stopped.

In case you have applied any custom configuration to your CloudBoot servers, it is recommended to recheck that this customization does not break new cloud boot image version. For this, reboot a compute resource and run Storage Health Check and Network Health Check. Make sure that Vdisks hosted on a compute resource are redundant and healthy before rebooting a CloudBoot compute resource.

> For more information about upgrade scenarios, refer to the OnApp Integrated Storage.
>
> If you are using the auto healing functionality for Integrated Storage, make sure to disable it before an upgrade.

3.2.4.1   Simple Reboot

> If you are using Xen compute resources, we recommend to reboot them only from the Control Panel interface.

Follow the below procedure to upgrade the CloudBoot compute resources with reboot:

1. Upgrade CloudBoot Packages.

2. When the CloudBoot packages upgrade is complete, stop all virtual servers which reside on the CloudBoot compute resources.

3. Reboot all CloudBoot compute resources.

Once the compute resources are booted, the upgrade is complete. Before starting all Virtual Servers please ensure that the diagnostics page does not report any issue. In case of any issue, please click repair button to resolve it, then continue with starting Virtual Servers.

> Note that virtual servers cannot be stopped simultaneously, but must be stopped in sequence. This can result in considerable downtime if there are a large number of virtual servers.

3.2.4.2   Migrate and Reboot

Use this procedure if you prefer migrating all virtual servers to another compute resource and conducting overall upgrade of your CloudBoot and Integrated Storage. Virtual servers that do not support hot migrate will have to be stopped.

Once you have upgraded the CloudBoot packages, you have to reboot your CloudBoot compute resources to update them.

To do so:

1. Run the following command from the Control Panel server to connect via SSH to compute resources:

    ```
    CP_host# liveUpdate listHVs
    ```
    If there is an unknown host, a dialog box appears for you to confirm that the Control Panel server can connect to the host. To allow the Control Panel server to connect to unknown hosts without your confirmation, run `liveUpdate listHVs` with the `-nc` option as follows:

    ```
    CP_host# liveUpdate listHVs -nc
    ```
    Ensure that you can trust all the unknown hosts before you run `liveUpdate listHVs` with the `-nc` option.

> If the command *liveUpdate* is not available, then the list of available compute resources may be located in the *sbin* directory instead (cd /usr/local/sbin).

2. Migrate all the virtual servers from the CloudBoot compute resource to another compute resource. Follow the instructions described in the [Migrate Virtual Server](#) section of the Admin guide to migrate virtual servers.

3. After that, go to your Control Panel **Settings** menu.

4. Click the **Compute Resources** icon.

5. Click the label of the CloudBoot compute resource you have migrated all VSs from.

6. On the compute resource details screen, click the **Actions** button, then click **Reboot Compute resource.**

> Rebooting a compute resource assigned to a data store with a single replica (single-replica compute resource) or degraded virtual disks may result in data loss.

7. A new screen will open asking for confirmation (via two check boxes) before reboot:

   o **Stop all virtual servers that cannot be migrated to another compute resource?** Check this box if you want VSs that cannot be migrated to be powered off. When a compute resource is scheduled for a reboot, OnApp will first attempt to hot migrate all VSs it hosts. If hot migration is not possible for a VS, OnApp will attempt to cold migrate that VS. With this box checked, if cold migration fails, the VS will be stopped so the reboot may proceed. If you don't check this box, OnApp will attempt to hot and then cold migrate all VSs hosted by the compute resource being rebooted – but will stop the migration process if any VS cannot be migrated.

   o **Are you sure you want to reboot this compute resource?** A simple confirmation to confirm that you want the compute resource to reboot.

   > Before the reboot, please ensure that all vdisks are fully synced and redundant. If some of them are not fully synced, the virtual server, that is owner of a degraded (or non-redundant) vdisk, can loose access to the vdisk. It can be manifested as IO errors during writes or reads to/from the vdisk inside the virtual server.

8. When you're certain you want to proceed with the reboot, click the **Reboot** button.

9. Repeat these steps for all CloudBoot compute resources in your cloud.

3.2.5 Local Read Policy

Enabling Local Read on a compute zone ensures that a locally stored copy of data will always be used for reads. This significantly reduces read latency and improves overall storage performance by reducing load on a SAN network. However, in order to use this policy, every compute resource must have sufficient physical drives to be able to store the number of stripes specified in the data store. For example, in a 2R4S data store, there must be at least four physical disks on the compute resource to use Local Read.

Changes to Local Read Policy Enforcement

Originally, when this policy was introduced, OnApp did not enforce the requirement for the minimum number of drives. Consequently, some users who set the policy, having insufficient drives may see the following error message:

```
Fatal: OnApp::Actions::Fatal Storage API Call failed:
{"result"=>"FAILURE", "error"=>"Local reads have been enabled on the
zone - members required per host: 4, required hosts: 2, available hosts:
0"}
```

The solution is to add additional drives to the compute resource and then add them to the data store or to disable Local Read.

3.3 Upgrade Cloud with Static Servers.

- OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments.

- You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1.

This guide explains how to upgrade OnApp Cloud 6.1 to 6.2 Edge 2 for a cloud with static servers. Follow the procedure listed below in the provided order to upgrade your cloud. All the packages (Control Panel and Static compute resources) must belong to the same major version to ensure the best performance of your cloud.

On this page:

- Upgrade Control Panel Server

- Upgrade Static Compute Resources

- Upgrade Static Compute Resources with Integrated Storage

- Upgrade Static Backup Servers

- Upgrade Static Backup Servers with Integrated Storage

See also:

- Upgrade Guide for Control Panel Server

- Upgrade Cloud with CloudBoot Servers

3.3.1 Upgrade Control Panel Server

To upgrade the Control Panel server, follow the procedure at **Upgrade Guide for Control Panel Server**.

3.3.2 Upgrade Static Compute Resources

To upgrade static compute resources, follow the next procedure:

1. Make sure your compute resource is visible and online on the Control Panel.

2. Download the OnApp YUM repository file:

    ```
    # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-6.2.noarch.rpm
    ```

3. Upgrade OnApp compute resource installer package:

    ```
    # yum update onapp-hv-install
    ```

4. Install expect utility:

```
# yum -y install expect
```
5. Initiate recovery images/iso download by running installer with -t option with the following comand:

    For KVM compute resources:

    ```
    # /onapp/onapp-hv-install/onapp-hv-kvm-install.sh -t
    ```
    For Xen compute resources:

    ```
    # /onapp/onapp-hv-install/onapp-hv-xen-install.sh -t
    ```

> If you do not have the /home/mq/onapp/messaging/credentials.yml file on your compute resources and you plan to deploy Accelerator, run the following command on the CP server:
>
> - For all compute resources:
>
> ```
> rake hypervisor:messaging:configure
> ```
> - For certain compute resources only:
>
> ```
> rake hypervisor:messaging:configure['11.0.50.111 11.0.50.112']
> ```
> For information on manual configuration for Accelerator, refer to RabbitMQ Configuration for Accelerator.To perform the configuration for a number of compute resources, separate their IPs with a space.

3.3.3 Upgrade Static Compute Resources with Integrated Storage

To upgrade static compute resources with Integrated Storage, follow the next procedure:

1. Download the OnApp YUM repository file:

    ```
    # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-6.2.noarch.rpm
    ```
2. Install Expect utility:

    ```
    # yum -y install expect
    ```
3. Upgrade OnApp compute resource installer package:

    ```
    # yum update onapp-hv-install
    ```
4. Initiate recovery images/iso download by running installer with -t option with the following command:

    For KVM compute resources:

    ```
    # /onapp/onapp-hv-install/onapp-hv-kvm-install.sh -t
    ```
    For Xen compute resources:

    ```
    # /onapp/onapp-hv-install/onapp-hv-xen-install.sh -t
    ```

3.3.4 Upgrade Static Backup Servers

To upgrade static compute resources, follow the next procedure:

1. Download the OnApp YUM repository file:

    ```
    # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-6.2.noarch.rpm
    ```
2. Upgrade OnApp Backup Server installer package:

    ```
    # yum update onapp-bk-install
    ```
3. Update your server OS components:

    ```
    # /onapp/onapp-bk-install/onapp-bk-install.sh -y
    ```
4. Run Backup Server installer:

```
# /onapp/onapp-bk-install/onapp-bk-install.sh
```

The full list of Backup Server installer options.

Usage:

```
/onapp/onapp-hv-install/onapp-hv-xen-install.sh [-c CONFIG_FILE] [-v
BK_VERSION] [-p API_VERSION] [-a] [-y] [-t] [-b] [-d] [-h]
```

Where:

-c CONFIG_FILE	Custom installer configuration file. Otherwise, the pre-installed one is used.
-v BK_VERSION	Custom Backup Tools version
-p API_VERSION	Custom StorageAPI version
-a	Do NOT be interactive. Process with automatic installation.
-y	Update OS packages (except for OnApp provided) with 'yum update'.
-t	Initiate Load Balancer Virtual Appliance, OnApp CDN Appliance and Application Server Appliance templates download. The download is initiated if '-a' option is used.
-b	Initiate Base templates download
-d	Install OnApp Storage related packages. Applicable for CentOS 7.x only.
-h	Print this info

3.3.5 Upgrade Static Backup Servers with Integrated Storage

To upgrade static compute resources, install Pipe Viewer tool with the folowing command:

```
# yum -y install pv
```

3.4 Upgrade Cloud with CloudBoot and Static Servers.

- OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments.

- You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1.

This guide provides instructions on how to upgrade to OnApp 6.2 Edge 2 for a cloud that runs CloudBoot and Static servers. Follow the procedure below in the presented order to upgrade your cloud. Please follow the complete procedure of the upgrade process. All the packages (Control Panel, Static, and CloudBoot compute resources) must belong to the same major version to ensure the best performance of your cloud.

On this page:

- [Upgrade Control Panel Server](#)
- [Upgrade Static Compute Resources](#)
- [Upgrade CloudBoot Compute Resources](#)

3.4.1 Upgrade Control Panel Server

To upgrade the Control Panel server, follow the procedure at **Upgrade Guide for Control Panel Server**.

3.4.2 Upgrade Static Compute Resources

To upgrade static compute resources, follow the procedure at **Upgrade Static Compute Resources**.

3.4.3 Upgrade CloudBoot Compute Resources

To upgrade CloudBoot compute resources, follow the procedure at **Upgrade CloudBoot Compute Resources**.

3.5 Upgrade Integrated Storage.

IS version upgrading to	5.5	5.6	5.7	5.8	5.9	5.10	6.0	6.1	6.2 Edge 1
Upgrade by **Simple Reboot**	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Upgrade by **Migrate and Reboot**	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Upgrade by **Live Upgrade**	Yes	No	No	No	No	No	No	No	No

Yes - recommended by OnApp
N/A - not recommended by OnApp, will not update properly CloudBoot OS or Integrated Storage
No - not available in the corresponding release

3.5.1 General information and recommendations about CloudBoot OS and Integrated Storage upgrades

Starting with OnApp 5.0 LTS, we have made some changes to updates for CloudBoot OS and Integrated Storage. CloudBoot OS upgrades that include security patches, kernel upgrades and updated drivers will be released on a regular basis. If a security patch was released by CentOS, it will be included in the next released RPM. These releases may not include updates for Integrated Storage, a component of CloudBoot OS, as this platform is stable and does not require changes with every release.

For the best experience, stability, and security OnApp recommends that the CloudBoot compute resources should be upgraded by reboot at a convenient time if a new CloudBoot RPM is released. This is required to completely apply the security patches, kernel upgrades and updated drivers.

Integrated Storage as a platform does not strictly require a CloudBoot compute resource to be rebooted after upgrade. However, in case of critical updates and fixes, it may be required to reboot a CloudBoot compute resource for them to take full effect.

3.5.2 Update Methods

Simple Reboot

This upgrade method requires to reboot CloudBoot compute resources with all virtual servers powered off to apply security patches, kernel upgrades and updated drivers to CloudBoot OS. Simple Reboot is the fastest and the safest way to upgrade but does result in some downtime for virtual servers. Integrated Storage virtual disks do not become degraded. This upgrade method also upgrades the Integrated Storage platform as a component of CloudBoot OS.

Migrate and Reboot

This upgrade method requires to reboot CloudBoot compute resources to apply security patches, kernel upgrades and updated drivers to CloudBoot OS and Integrated Storage. Your virtual servers will remain online, you only need to migrate them from CloudBoot compute resources that will be rebooted. Keep in mind that it is required to repair any degraded virtual disks before proceeding with reboot.

> Please contact our Support team if you are not sure which upgrade method is right for you.

4 Upgrade from 6.2 Edge 1

The guides in this section apply to upgrading to OnApp 6.2 Edge 2 from the 6.2 Edge 1 version.

4.1 Upgrade Guide for Control Panel Server (from 6.2 Edge 1)

- OnApp 6.2 Edge 2 is an edge release that is not designed to be installed on production environments.

- You can update to OnApp 6.2 Edge 2 from OnApp 6.1 or OnApp 6.2 Edge 1.

This guide provides an instruction how to upgrade you Control Panel server from OnApp Cloud 6.2 Edge 1 to 6.2 Edge 2. Please follow the complete procedure of the upgrade process. All packages must belong to the same major version to ensure the best performance of your cloud.

See also:

Upgrade Cloud with CloudBoot Servers
Upgrade Cloud with Static Servers.

4.1.1 Upgrade Control Panel Server

4.1.2

- Installer output is redirected to ./onapp-cp-install.log

- All installer critical errors are in located at /var/log/messages

To upgrade your Control Panel server:

1. Download the OnApp YUM repository file:
   ```
   # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-6.2.noarch.rpm
   ```
2. Upgrade OnApp Control Panel installer package
   ```
   # yum update onapp-cp-install
   ```
3. Update your server OS components (if required):
   ```
   # /onapp/onapp-cp-install/onapp-cp-install.sh -y
   ```
4. *(Optional)* If you need some custom Control Panel configuration, set the values before the installer script runs.

   The list of custom configuration options for Control Panel.
   ```
   # vi /onapp/onapp-cp.conf
   ```
   Template server URL
   ```
   TEMPLATE_SERVER_URL='http://templates-manager.onapp.com';
   ```
   # IPs (separated with coma) list for the SNMP to trap. This is the list of Control Panel IP addresses on which the traps sent from the compute resources are processed.
   ```
   SNMP_TRAP_IPS=""
   ```
   # OnApp Control Panel custom version
   ```
   ONAPP_VERSION=""
   ```
   # OnApp MySQL/MariaDB connection data (database.yml)

```
ONAPP_CONN_WAIT_TIMEOUT=15
ONAPP_CONN_POOL=30
ONAPP_CONN_RECONNECT='true'
ONAPP_CONN_ENCODING='utf8'
```

MySQL/MariaDB server configuration data (in case of local server)

```
MYSQL_WAIT_TIMEOUT=604800
MYSQL_MAX_CONNECTIONS=500
MYSQL_LIMITNOFILE=8192
```

[Use MariaDB instead of MySQL as OnApp database server](#) (Deprecated parameter. If you set any values for this parameter, they will not take effect)

```
WITH_MARIADB=0
```

#Configure the database server relative amount of available RAM

```
TUNE_DB_SERVER=1
```

The number of C data structures that can be allocated before triggering the garbage collector. It defaults to 8 million. Only change this value if you understand what it does.

```
RUBY_GC_MALLOC_LIMIT=16000000
```

sysctl.conf net.core.somaxconn value

```
NET_CORE_SOMAXCONN=2048
```

The root of OnApp database dump directory (on the Control Panel box)

```
ONAPP_DB_DUMP_ROOT=""
```

Remote server's (to store database dumps) IP, user, path, openssh connection options and number of dumps to keep

```
DB_DUMP_SERVER=""
DB_DUMP_USER="root"
DB_DUMP_SERVER_ROOT="/onapp/backups"
DB_DUMP_SERVER_SSH_OPT="-o StrictHostKeyChecking=no -o
UserKnownHostsFile=/dev/null -o PasswordAuthentication=no"
KEEP_DUMPS=168
DB_DUMP_CRON='40 * * * *'
```

[Enable monit - tool for managing and monitoring Unix systems](#)

```
ENABLE_MONIT=1
```

If enabled (the 1 value is set) - install (if local box) and configures RabbitMQ Server (messaging system) for the vCloud support. (Deprecated parameter. If you set any values for this parameter, they will not take effect)

```
ENABLE_RABBITMQ=1
```

Rotate transactions' log files created more than TRANS_LOGS_ROTATE_TIME day(s) ago

```
TRANS_LOGS_ROTATE_TIME=30
```

Maximum allowed for uploading file size in bytes, from 0 (meaning unlimited) to 2147483647 (2GB). Default is 0.

```
MAX_UPLOAD_SIZE=0
```

Timeout before ping Redis Server to check if it is started. Default is 10 sec.

```
REDIS_PING_TIMEOUT=10
```

OnApp Control Panel SSL certificates (please do not change if you aren't familiar with SSL certificates)

* The data below to generate self-signed PEM-encoded X.509 certificate

```
SSL_CERT_COUNTRY_NAME=UK
SSL_CERT_ORGANIZATION_NAME='OnApp Limited'
SSL_CERT_ORGANIZATION_ALUNITNAME='OnApp Cloud'
SSL_CERT_COMMON_NAME=`hostname --fqdn 2>/dev/null`
```

SSLCertificateFile, SSLCertificateKeyFile Apache directives' values

ssl_certificate, ssl_certificate_key Nginx directives' values

```
SSLCERTIFICATEFILE=/etc/pki/tls/certs/ca.crt
SSLCERTIFICATECSRFILE=/etc/pki/tls/private/ca.csr
SSLCERTIFICATEKEYFILE=/etc/pki/tls/private/ca.key
```
* PEM-encoded CA Certificate (if custom one exists)
SSLCACertificateFile, SSLCertificateChainFile Apache directives' values
ssl_client_certificate Nginx directives' values

```
SSLCACERTIFICATEFILE=""
SSLCERTIFICATECHAINFILE=""
```
SSLCipherSuite, SSLProtocol Apache directives' values

ssl_ciphers, ssl_protocols Nginx directives' values

```
SSLCIPHERSUITE=""
SSLPROTOCOL=""
```
5. Run the Control Panel installer:

```
# onapp/onapp-cp-install/onapp-cp-install.sh --quick-update
```
Please, answer 'yes' when installer prompts to initiate images, templates, and ISOs download.

The full list of installer options for Control Panel.

Usage:

```
/onapp/onapp-cp-install/onapp-cp-install.sh [-c CONFIG_FILE] [--
mariadb | --community | --percona | --percona-cluster] [-m MYSQL_HOST]
[--mysql-port=MYSQL_PORT] [--mysql-sock[=MYSQL_SOCK] [-p MYSQL_PASSWD]
[-d MYSQL_DB] [-u MYSQL_USER] [-U ADMIN_LOGIN] [-P ADMIN_PASSWD] [-F
ADMIN_FIRSTNAME] [-L ADMIN_LASTNAME] [-E ADMIN_EMAIL] [-v
ONAPP_VERSION] [-i SNMP_TRAP_IPS] [--redis-host=REDIS_HOST] [--redis-
bind[=REDIS_BIND] [--redis-passwd[=REDIS_PASSWD] [--redis-
port=REDIS_PORT] [--redis-sock[=REDIS_SOCK] [--rbthost RBT_HOST] [--
vcdlogin VCD_LOGIN] [--vcdpasswd VCD_PASSWD] [--vcdvhost VCD_VHOST]
[--rbtlogin RBT_LOGIN] [--rbtpasswd RBT_PASSWD] [-a] [-y] [-D] [-t]
[--noservices] [--ha-install] [--rake=RAKE_TASKS] [-h]
```

Where:

Database server options:	Default database SQL server is MySQL Server. Please use one of the following option to install LOCALLY.
--mariadb	MariaDB Server
--community	MySQL Community Server
--percona	Percona Server
--percona-cluster	Percona Cluster
MYSQL_*	Options are useful if MySQL is already installed and configured.
-m MYSQL_HOST	MySQL host. Default is 'localhost'
--mysql-port=MYSQL_PORT	TCP port where MySQL Server serves connections. Default values is 3306 for the local installation
--mysql-sock[=MYSQL_SOCK]	Unix socket on which MySQL Server serves connections. Default values is /var/lib/mysql/mysql.sock. Used if local server only. The socket is unset if the option's argument isn't specified.
-p MYSQL_PASSWD	MySQL password. Random is generated if is not set or specified.

-d MYSQL_DB	OnApp MySQL database name. Default is 'onapp'
-u MYSQL_USER	MySQL user. Default is 'root'
REDIS_*	Options are useful if Redis Server is already installed and configured.
--redis-host=REDIS_HOST	IP address/FQDN where Redis Server runs. It is used by Control Panel to connect to Redis Server. The Redis Server will be installed and configured on the current box if localhost/127.0.0.1 or box's public IP address (listed in SNMP_TRAP_IPS) is specified. Default value is 127.0.0.1. If local Redis, it will serve as well on the unix socket 'PORT' (if --redis-sock without argument isn't specified).
--redis-bind[=REDIS_BIND]	The IP address for Redis Server to serve connections (to listen). The option isn't mandatory.
--redis-port=REDIS_PORT	Redis Server listen port. Defaults are: 0 - if local server 6379 - if remote server
--redis-passwd[=REDIS_PASSWD]	Redis Server password to authentificate. Random password is generated if the option's argument isn't specified. By default no password is used for local Redis.
--redis-sock[=REDIS_SOCK]:	Path to the Redis Server's socket. Used if local server only. Default is /var/run/redis/redis.sock. The socket is unset if the option's argument isn't specified.
ADMIN_*	Options are used to configure OnApp Control Panel administrator data. Please note, that these options are for NEW INSTALL only and not for upgrade
-P ADMIN_PASSWD	CP administrator password
-F ADMIN_FIRSTNAME	CP administrator first name
-L ADMIN_LASTNAME	CP administrator last name
-E ADMIN_EMAIL	CP administrator e-mail
--rbthost RBT_HOST	IP address/FQDN where RabbitMQ Server runs. The RabbitMQ will be installed and configured on the current box if localhost/127.0.0.1 or box's public IP address (enlisted in SNMP_TRAP_IPS) Default value is 127.0.0.1.
VCD_*	Options are usefull if vCloud/RabbitMQ are already installed and configured.
--vcdlogin VCD_LOGIN	RabbitMQ/vCloud user. Default value is 'rbtvcd'.
--vcdpasswd VCD_PASSWD	RabbitMQ/vCloud user password. The random password

	is generated if isn't specified.
--vcdvhost VCD_VHOST	RabbitMQ/vCloud vhost. Default value is '/'
RBT_*	Options are used to configure RabbitMQ manager account. If local RabbitMQ server.
--rbtlogin RBT_LOGIN	RabbitMQ manager login. The default value is 'rbtmgr'.
--rbtpasswd RBT_PASSWD	RabbitMQ manager password. The random password is generated if isn't specified.
--rake RAKE_TASKS	List of OnApp Control Panel rake tasks (separated with space) to run at the very end of install or upgrade.
-v ONAPP_VERSION	Install custom OnApp CP version
-i SNMP_TRAP_IPS	IP addresses separated with coma for snmp to trap
-y	Update OS packages (except of OnApp provided) on the box with 'yum update'.
-a	Is not interactive. Process with automatic installation. Please note, this will continue OnApp Control Panel install/upgrade even if there is transaction currently running.
-t	Add to the database and download Base Templates. For new installs only. If this option is not used, then only the following mandatory System Templates will be added by default during fresh install: OnApp CDN Appliance; Load Balancer Virtual Appliance; Application Server Appliance.
--noservices	Do not start OnApp services: monit, onapp and httpd Please note, crond and all OnApp's cron tasks remain running. They could be disabled by stopping crond service manually for your own risk.
-D	Do not make database dump, and make sure it is disabled in the cron and not running at the moment.
--quick|--quick-update[=SERVICE]	Procceed with quick update procedure. This will skip update and configuration for services, such as system packages, MySQL database, Redis Server, RabbitMQ Server, and Monit service. Set the SERVICE parameter (space separated list of statements) to define services, which need to be updated. Possible reserved statements are: *rpms* - for 'system packages' upgrade; *mysql* - for MySQL databse upgrade ond configuring; *redis* - for ERedis Server upgrade and configuring; *rabbitmq* - for RabbitMQ Server upgrade and configuring; *monit* - for Monit upgrade and configuring.
--accept-eula	Automatically accept OnApp's End User License Agreement.
-c CONFIG_FILE	Custom installer configuration file. Otherwise, preinstalled one is used.
-h	Print this info

5 Getting Support for Upgrade.

You can use the instructions in this guide to upgrade your OnApp Cloud. If you have a full OnApp Cloud license, you can receive free upgrade support from the OnApp Support team. If you prefer to have the Support team perform the upgrade for you, **submit a request** to schedule the upgrade.

You can also refer to the following sources when you need help:

5.1 Professional Services

Get in touch with our **Professional Services** to get expert help from launch to production and beyond.

5.2 OnApp Community

Visit **OnApp Community** that is a public forum where you can share your feedback and product ideas. Only OnApp customers can give suggestions but anyone can explore them.

5.3 Knowledge Base

Visit **Knowledge Base** where you can find a lot of how-to articles to resolve questions that you may face while working with OnApp.

5.4 Documentation

You are now located in one of the OnApp documentation spaces that is **Upgrade Guide**. Go to **Documentation Home** to browse other available spaces.