# OnApp Cloud 5.5
# Upgrade Guide

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The guides in this section apply to upgrading to the OnApp Cloud 5.5 version. For the release notes list, please refer to the [Release Notes](#) space. For information on how to install OnApp 5.5 version refer to the [Get Started](#) guide.

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# 2  Upgrade Guide for Control Panel Server

This guide presents the complete walk-through how to upgrade you Control Panel server from OnApp Cloud v5.4 to v5.5. 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.

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- Upgrade Control Panel Server
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*See also:*

*Installation Guide*

*Upgrade Guide for Cloud with CloudBooted Servers*

*Upgrade Guide for Cloud with Static Servers*

*Upgrade Guide for Cloud with Mixed CloudBooted and Static Servers*

## 2.1  Important Notes

1. You must be running the latest patch of OnApp 5.4 version to upgrade to 5.5 version. If you are using an earlier version, please upgrade to 5.4. first.
2. Check the Activity Log in your OnApp CP dashboard if there are no transactions running in your cloud. If so, wait until all transactions are complete.
3. Make sure no Control Panel files are open for editing under the root user account.
4. If you plan to deploy Accelerator, refer to the RabbitMQ Configuration for Accelerator document for more details.
5. Be aware that from now on, OnApp Licensing has a standalone client.Use only 443 port to connect from Control Panel to licensing server.
6. We strongly recommend that you test all your custom scripts before upgrading your production environment.

If you are using WHMCS modules for OnApp, it is not recommended to update your cloud to the latest release. To ensure that all WHMCS modules

are working correctly you need to be running an LTS OnApp version.

## 2.2  Check Your Cloud Configuration

This section applies only if you are upgrading from OnApp version 5.0 to 5.5. If you are upgrading from the 5.4 version proceed to the 'Upgrade Control Panel Server' section.

When updating your cloud from 5.0 to 5.5, a rake task will check whether your system is compatible with the changes introduced in OnApp 5.3 and 5.4. Your cloud must comply with both the new resource zone and networking requirements.

### 2.2.1  Zone Types

Starting with OnApp version 5.3, there's a strict system requirement that all compute resources, data stores, networks, and backup servers should be attached to zones. All compute, data store, network and backup server zones after the upgrade will have an assigned zone type. This type will be inherited by the compute resources, data stores, networks and backup servers in the zones. During the update to OnApp 5.3, the updater will check the cloud configuration. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud configuration is correct, the CP updater will be run and new types will be set for your zones and resources automatically. Resources can be later moved only between zones of the same type.

- *Compute zones* can have the Virtual, Baremetal, Smart and VPC (Virtual Private Cloud) types.
- *Data store zones* can have the Virtual, Smart and VPC types.
- *Network zones* can have the Virtual, Baremetal, Smart and VPC types.
- *Backup server zones* can have the Virtual and Smart types.

For more information refer to Zone Types document.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all compute resources are assigned to compute zones
- all data stores are assigned to data store zones
- all networks are assigned to network zones
- all backup servers are assigned to backup server zones
- compute zones should not be mixed. Xen/KVM and vCloud Director compute resource cannot reside in one compute zone.
- network zones should not be mixed. All networks in a zone should be assigned to compute resources or compute zones of the same type.
- data store zones should not be mixed. All data stores in a zone should be assigned to compute resources or compute zones of the same type.
- backup server zones should not be mixed. All backup servers in a zone should be assigned to compute resources or compute zones of the same type.

> If any inconsistencies are detected in your system, the update procedure will stop and no types will be assigned to your zones and resources. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.3 will go smoothly, and all zones will acquire the corresponding zone type.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/production_upgrade.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- a compute resource that is not assigned to a compute zone has been detected. The ID and the label of the compute resource will be provided.

- a data store that is not assigned to a data store zone has been detected. The ID and the label of the data store will be provided.

- a network that is not assigned to a network zone has been detected. The ID and the label of the network will be provided.

- a backup server that is not assigned to a backup server zone has been detected. The ID and the label of the backup server will be provided.

- a mixed compute zone with vCloud Director compute resource(s) and compute resources of other type has been detected. The ID and the label of the compute zone which has mixed resources will be provided.

- a mixed network zone with networks which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the network zone will be provided.

- a mixed data store zone with data stores which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the data store zone will be provided.

- a mixed backup server zone with backup servers which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the backup server zone will be provided.

## 2.2.2 Networking

Starting with OnApp 5.4, networks are made up of sub-networks called IP nets which contain ranges of IP addresses. To make your system compatible with the new networking scheme, a rake task will run with the updater. The rake task will modify your networks to contain IP ranges and IP nets. If a network contains two or more consecutive IP addresses of the same range of addresses, they will be united into one IP range. Individual IPs will each constitute an IP range. For each of the IP ranges an IP net will be added to the network. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud configuration is correct, the CP updater will be run and your networks will be modified to include IP nets and IP ranges.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all VLANs indicated for the networks in the cloud should have a relevant value. The value for VLAN should not exceed 4095.

- all networks which have one or several IP addresses assigned to user(s) should be within a network zone

- all IP addresses added to the cloud should be represented with feasible values

- all network masks should have relevant lengths

- there should be no overlapping IP addresses in a single network

If one or several of the IP address you've added to the cloud do not correspond with their prefix, the system will offer to switch on the *force* option. When the *force* option is enabled, the system will automatically change the IP address to correspond with their prefix. For example, if you've had a 198.168.0.1/255.255.0.0 IP address with 8 as its prefix, the system will change the address to 198.168.0.1/255.0.0.0.

> If any inconsistencies are detected in your system, the update procedure will stop and the networks will undergo no changes. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.4 will go smoothly, and all networks will be modified to include IP nets and IP ranges.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/ip_consistency_check.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- an incorrect VLAN for a network has been detected. The ID and label of the network will be provided.

- a network that has an IP address assigned to a user and which is not in a network zone has been detected. The ID of the network, the ID of the assigned IP address and the ID of the user to whom the IP is assigned will be provided.

- an IP address which is represented incorrectly has been detected. The ID of the IP address will be provided.

- an IP address which does not correspond with its prefix has been detected. The ID of the network, the ID of the IP address and the existing and expected prefixes will be provided.

- overlapping IP addresses have been detected in one network. The IP addresses and the network ID will be provided.


## 2.3  Upgrade Control Panel Server

> - Installer output is redirected to ./onapp-cp-install.log
>
> - All installer critical errors are in /var/log/messages


### 2.3.1  Upgrade Control Panel Server from version 5.0 to 5.5

To upgrade your Control Panel server under RHEL/CentOS 6.x from OnApp 5.0 LTS to 5.5:

1. Download and install OnApp Control Panel update package:

```
# rpm -Uvh http://rpm.repo.onapp.com/repo/centos/6/x86_64/RPMS-
5.5/onapp-cp-update-5.5-1.noarch.rpm
```

2.  Run the update script:

```
# /onapp/onapp-cp-update/onapp-cp-update.sh
```

> The update script will be interrupted if any inconsistencies are detected in your system.

3.  Check that the cloud has been successfully updated through OnApp versions 5.0-5.5:

```
# ls -1 /onapp/onapp-cp-update/.installed.*
    /onapp/onapp-cp-update/.installed.5.0
    /onapp/onapp-cp-update/.installed.5.1
    /onapp/onapp-cp-update/.installed.5.2
    /onapp/onapp-cp-update/.installed.5.3
    /onapp/onapp-cp-update/.installed.5.4
    /onapp/onapp-cp-update/.installed.5.5
```

If the update to a certain version has failed, it is required to manually remove the issue causing the failure and to restart the update script.

4.  If the update has completed successfully, run the following command:

```
# service onapp start &&  service  httpd start
```

5.  Ensure that all services are working:

```
# service onapp status &&  service  httpd status
```

## 2.3.2  Upgrade Control Panel Server from version 5.4 to 5.5

To upgrade your Control Panel server:

1.  Download and install the latest OnApp YUM repository file:

o

```
        # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
        5.5.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.

   Edit the /onapp/onapp-cp.conf file to set Control Panel custom values

   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'
   ONAPP_CONN_SOCKET='/var/lib/mysql/mysql.sock'
   ```

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

```
MYSQL_WAIT_TIMEOUT=604800
MYSQL_MAX_CONNECTIONS=500
MYSQL_PORT=3306
```

\# [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. 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 ans 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 1GB

```
MAX_UPLOAD_SIZE=1073741824
```

\# Timeout before ping Redis Server to check if it is started. Default is 5 sec.

```
REDIS_PING_TIMEOUT=5
```

\# OnApp Control Panel SSL certificates (please do not change if you aren't familar 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=
```

```
# vi /onapp/onapp-cp.conf
```

5.  Run Control Panel installer:

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

The full list of Control Panel installer options:

**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 |

**Usage**:

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/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]
```

| | |
|---|---|
| | /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 |
| | |
| **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 |

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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]
```

| | |
|---|---|
| | 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.<br>Defaults are:<br>0 - if local server<br>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.<br>By default no password is used for local Redis. |
| **--redis-sock=REDIS_PATH :** | 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. |

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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]
```

|  |  |
|---|---|
|  | 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 values are 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'. |

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/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]
```

| | |
|---|---|
| **--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. |
| | |
| **--ha-install** | Proceed with Control Panel and High Availability components installation. |
| **--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 |

**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]
```

| | |
|---|---|
| **-i SNMP_TRAP_IPS** | IP addresses separated with coma for snmp to trap |
| **-c CONFIG_FILE** | Custom installer configuration file. Otherwise, preinstalled one is used. |
| **-y** | update OS packages (except of OnApp provided) on the box with 'yum update'. |
| **-a** | Do not be 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**<br>**Please note, crond and all OnApp's cron** |

**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]
```

|  |  |
|---|---|
|  | **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. |
| **-h** | print this info |

You may wish to reboot your Control Panel server to take advantage of a new kernel if it is installed. It is not required immediately as a part of the upgrade process though.

# 3   Upgrade Guide for Cloud with CloudBooted Servers

This guide presents the complete walk-through how to upgrade OnApp Cloud v5.4 to the v5.5 for the cloud configuration where all servers are CloudBooted except Control Panel server. Please follow the complete procedure of the upgrade process. All packages (Control Panel, CloudBoot, Compute resources) must belong to the same major version to ensure the best performance of your cloud.

On this page:

- Important Notes
- Check Your Cloud Configuration
    - Zone Types
    - Networking
- Upgrade Control Panel Server
    - Upgrade Control Panel Server from version 5.0 to 5.5
    - Upgrade Control Panel Server from version 5.4 to 5.5
- Upgrade CloudBoot Packages
- Upgrade CloudBoot Backup Servers
- Upgrade CloudBoot Compute Resources
    - Simple Reboot
    - Migrate and reboot
    - Live Upgrade
- Local Read Policy

*See also:*

*Installation Guide*

*Upgrade Guide for Control Panel Server*

*Upgrade Guide for Cloud with Static Servers*

*Upgrade Guide for Cloud with Mixed CloudBooted and Static Servers*

## 3.1   Important Notes

1.   You must be running the latest patch of OnApp 5.4 version to upgrade to 5.5 version. If you are using an earlier version, please upgrade to 5.4. first.

2. Check the Activity Log in your OnApp CP dashboard if there are no transactions running in your cloud. If so, wait until all transactions are complete.

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

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

5. Be aware that from now on, OnApp Licensing has a standalone client.Use only 443 port to connect from Control Panel to licensing server.

6. We strongly recommend that you test all your custom scripts before upgrading your production environment.

7. Be aware that OnApp does not support UEFI on static compute resources. You should disable UEFI on your compute resources before installing OnApp.

8. If you are using the auto healing functionality for Integrated Storage, make sure to disable it before an upgrade.

9. If you are using Integrated Storage, refer to the OnApp IS Upgrade Paths for more information about the upgrade details.

- Drives assigned for use by Integrated Storage are identified using a disk signature that is generated using 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.

- If you are using WHMCS modules for OnApp, it is not recommended to update your cloud to the latest release. To ensure that all WHMCS modules are working correctly you need to be running an LTS OnApp version.

## 3.2 Check Your Cloud Configuration

This section applies only if you are upgrading from OnApp version 5.0 to 5.5. If you are upgrading from the 5.4 version proceed to the 'Upgrade Control Panel Server' section.

When updating your cloud from 5.0 to 5.5, a rake task will check whether your system is compatible with the changes introduced in OnApp 5.3 and 5.4. Your cloud must comply with both the new resource zone and networking requirements.

### 3.2.1 Zone Types

Starting with OnApp version 5.3, there's a strict system requirement that all compute resources, data stores, networks, and backup servers should be attached to zones. All compute, data store, network and backup server zones after the upgrade will have an assigned zone type. This type will be inherited by the compute resources, data stores, networks and backup servers in the zones. During the update to OnApp 5.3, the updater will check the cloud configuration. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud

configuration is correct, the CP updater will be run and new types will be set for your zones and resources automatically. Resources can be later moved only between zones of the same type.

- *Compute zones* can have the Virtual, Baremetal, Smart and VPC (Virtual Private Cloud) types.

- *Data store zones* can have the Virtual, Smart and VPC types.

- *Network zones* can have the Virtual, Baremetal, Smart and VPC types.

- *Backup server zones* can have the Virtual and Smart types.

For more information refer to Zone Types document.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all compute resources are assigned to compute zones

- all data stores are assigned to data store zones

- all networks are assigned to network zones

- all backup servers are assigned to backup server zones

- compute zones should not be mixed. Xen/KVM and vCloud Director compute resource cannot reside in one compute zone.

- network zones should not be mixed. All networks in a zone should be assigned to compute resources or compute zones of the same type.

- data store zones should not be mixed. All data stores in a zone should be assigned to compute resources or compute zones of the same type.

- backup server zones should not be mixed. All backup servers in a zone should be assigned to compute resources or compute zones of the same type.

> If any inconsistencies are detected in your system, the update procedure will stop and no types will be assigned to your zones and resources. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.3 will go smoothly, and all zones will acquire the corresponding zone type.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/production_upgrade.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- a compute resource that is not assigned to a compute zone has been detected. The ID and the label of the compute resource will be provided.

- a data store that is not assigned to a data store zone has been detected. The ID and the label of the data store will be provided.

- a network that is not assigned to a network zone has been detected. The ID and the label of the network will be provided.

- a backup server that is not assigned to a backup server zone has been detected. The ID and the label of the backup server will be provided.

- a mixed compute zone with vCloud Director compute resource(s) and compute resources of other type has been detected. The ID and the label of the compute zone which has mixed resources will be provided.

- a mixed network zone with networks which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the network zone will be provided.

- a mixed data store zone with data stores which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the data store zone will be provided.

- a mixed backup server zone with backup servers which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the backup server zone will be provided.

### 3.2.2  Networking

Starting with OnApp 5.4, networks are made up of sub-networks called IP nets which contain ranges of IP addresses. To make your system compatible with the new networking scheme, a rake task will run with the updater. The rake task will modify your networks to contain IP ranges and IP nets. If a network contains two or more consecutive IP addresses of the same range of addresses, they will be united into one IP range. Individual IPs will each constitute an IP range. For each of the IP ranges an IP net will be added to the network. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud configuration is correct, the CP updater will be run and your networks will be modified to include IP nets and IP ranges.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all VLANs indicated for the networks in the cloud should have a relevant value. The value for VLAN should not exceed 4095.

- all networks which have one or several IP addresses assigned to user(s) should be within a network zone

- all IP addresses added to the cloud should be represented with feasible values

- all network masks should have relevant lengths

- there should be no overlapping IP addresses in a single network

If one or several of the IP address you've added to the cloud do not correspond with their prefix, the system will offer to switch on the *force* option. When the *force* option is enabled, the system will automatically change the IP address to correspond with their prefix. For example, if you've had a 198.168.0.1/255.255.0.0 IP address with 8 as its prefix, the system will change the address to 198.168.0.1/255.0.0.0.

> If any inconsistencies are detected in your system, the update procedure will stop and the networks will undergo no changes. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.4 will go smoothly, and all networks will be modified to include IP nets and IP ranges.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/ip_consistency_check.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- an incorrect VLAN for a network has been detected. The ID and label of the network will be provided.

- a network that has an IP address assigned to a user and which is not in a network zone has been detected. The ID of the network, the ID of the assigned IP address and the ID of the user to whom the IP is assigned will be provided.

- an IP address which is represented incorrectly has been detected. The ID of the IP address will be provided.

- an IP address which does not correspond with its prefix has been detected. The ID of the network, the ID of the IP address and the existing and expected prefixes will be provided.

- overlapping IP addresses have been detected in one network. The IP addresses and the network ID will be provided.

## 3.3  Upgrade Control Panel Server

- Installer output is redirected to ./onapp-cp-install.log
- All installer critical errors are in /var/log/messages

### 3.3.1  Upgrade Control Panel Server from version 5.0 to 5.5

To upgrade your Control Panel server under RHEL/CentOS 6.x from OnApp 5.0 LTS to 5.5:

1. Download and install OnApp Control Panel update package:

```
# rpm -Uvh http://rpm.repo.onapp.com/repo/centos/6/x86_64/RPMS-
5.5/onapp-cp-update-5.5-1.noarch.rpm
```

2. Run the update script:

```
# /onapp/onapp-cp-update/onapp-cp-update.sh
```

> The update script will be interrupted if any inconsistencies are detected in your system.

3. Check that the cloud has been successfully updated through OnApp versions 5.0-5.5:

```
# ls -1 /onapp/onapp-cp-update/.installed.*
    /onapp/onapp-cp-update/.installed.5.0
    /onapp/onapp-cp-update/.installed.5.1
    /onapp/onapp-cp-update/.installed.5.2
```

```
/onapp/onapp-cp-update/.installed.5.3
/onapp/onapp-cp-update/.installed.5.4
/onapp/onapp-cp-update/.installed.5.5
```

If the update to a certain version has failed, it is required to manually remove the issue causing the failure and to restart the update script.

4. If the update has completed successfully, run the following command:

```
# service onapp start && service httpd start
```

5. Ensure that all services are working:

```
# service onapp status && service httpd status
```

## 3.3.2  Upgrade Control Panel Server from version 5.4 to 5.5

To upgrade your Control Panel server:

1. Download and install the latest OnApp YUM repository file:

   o

   ```
   # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
   5.5.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.

   Edit the /onapp/onapp-cp.conf file to set Control Panel custom values

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'
ONAPP_CONN_SOCKET='/var/lib/mysql/mysql.sock'
```

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

```
MYSQL_WAIT_TIMEOUT=604800
MYSQL_MAX_CONNECTIONS=500
MYSQL_PORT=3306
```

\# [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. 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 ans 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 1GB

```
MAX_UPLOAD_SIZE=1073741824
```

# Timeout before ping Redis Server to check if it is started. Default is 5 sec.

```
REDIS_PING_TIMEOUT=5
```

# OnApp Control Panel SSL certificates (please do not change if you aren't familar 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=
```

```
# vi /onapp/onapp-cp.conf
```

5. Run Control Panel installer:

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

The full list of Control Panel installer options:

**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** |
| | |

**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]
```

| | |
|---|---|
| **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 |
| | |
| **REDIS_*** | Options are useful if Redis Server is already |

**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]
```

| | |
|---|---|
| | 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.<br>Defaults are:<br>0 - if local server<br>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.<br>By default no password is used for local |

**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]
```

| | |
|---|---|
| | Redis. |
| **--redis-sock=REDIS_PATH :** | 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 |

**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]
```

| | |
|---|---|
| | localhost/127.0.0.1 or box's public IP address (enlisted in SNMP_TRAP_IPS) Default values are 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. |
| | |

**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]
```

| | |
|---|---|
| **--ha-install** | Proceed with Control Panel and High Availability components installation. |
| **--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 |
| **-c CONFIG_FILE** | Custom installer configuration file. Otherwise, preinstalled one is used. |
| **-y** | update OS packages (except of OnApp provided) on the box with 'yum update'. |
| **-a** | Do not be 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** |

**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]
```

|  |  |
|---|---|
|  | **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**<br>**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. |
| **-h** | print this info |

You may wish to reboot your Control Panel server to take advantage of a new kernel if it is installed. It is not required immediately as a part of the upgrade process though.

## 3.4 Upgrade CloudBoot Packages

> Create a backup of the /tftpboot directory in case storage packages rollback will be needed.

To upgrade the OnApp Storage packages:

1. Upgrade the repo:

```
CP_host#> rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
5.5.noarch.rpm
```

2. Upgrade the packages:

    Depending on the needed compute resource type, you should install  onapp-ramdisk-DISTRO-FLAVOR package(s), where:

    DISTRO - CentOS6 or CentOS7
    FLAVOR - XEN, KVM

    Also it is required to install *yum install onapp-ramdisk-centos7-default* together with onappstore packages.

    It is recommended to update all packages. Below you can find an example:

```
bash#> # yum install onapp-ramdisk-centos7-default
bash#> # yum update onapp-store-install
bash#> # yum update onapp-ramdisk-tools
bash#> # yum update onapp-ramdisk-centos6-kvm
bash#> # yum update onapp-ramdisk-centos6-xen
bash#> # yum update onapp-ramdisk-centos7-kvm
```

> After packages update go to the Control Panel's **Settings** menu > **Configuration** and click the **Save Configuration** button.

3. Run the script:

```
CP_host#> /onapp/onapp-store-install/onapp-store-install.sh
```

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

When run in the interactive mode, enter the required information.

## 3.5 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 CloudBooted 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.


## 3.6  Upgrade CloudBoot Compute Resources

- If you are upgrading from 5.4 to 5.5 all three upgrade options are applicable.

- If you are upgrading from 5.0 to 5.5 only the Simple Reboot and Migrate and Reboot upgrade options are applicable.

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 reboot** | This method involves migrating all virtual servers off each CloudBoot compute 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. |
| **Live Upgrade** | This method will upgrade Integrated Storage components but will not upgrade CloudBoot image. |

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 IS Upgrade Paths](#).
>
> If you are using the [auto healing](#) functionality for Integrated Storage, make sure to disable it before an upgrade.

### 3.6.1  Simple Reboot

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 clik 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.

### 3.6.2  Migrate and reboot

> Live Upgrade is only applicable if your cloud is running latest 5.3 CloudBoot RPM.

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.  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.

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

3.  Click the **Compute Resources** icon.

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

5.  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.

6. 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.

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

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

### 3.6.3  Live Upgrade

> Live Upgrade is only applicable if your cloud is running latest 5.3 CloudBoot RPM.

- Live Upgrade with passthrough is currently unsupported. Passthrough to storage means that network interface will be added to the Storage Controller Server without the bond and the Storage Controller Server will have the complete control over this interface.

- During the CloudBoot compute resource live upgrade, only the control stack for managing integrated storage is upgraded.  Other changes come into effect after the compute resource is next rebooted. Due to this, hot migration may fail between compute resource which is already rebooted and the one that hasn't.

- Do not make any changes to the cloud during the upgrade process!

- Any offline Cloudboot compute resources should be removed from the CP server before running live upgrade as the scripts expect to be able to

> speak to all compute resources during these steps.
>
> - Please, consult OnApp IS Upgrade Paths to learn the minimum Integrated Storage version required for the current update to be performed in LiveUpgrade mode.

Use this procedure to upgrade without rebooting your servers:

1. Make sure no disks are out of sync. To do so, check the Diagnostics page in CP at **Dashboard** > **Integrated Storage** > **Compute zone label** > **Diagnostics**. Alternatively, log into a compute resource and run the command below:

```
HV_host#> getdegradedvdisks
```

2. Repair all the degraded disks before proceeding to the upgrade process. To do so, log in to your CP and go to **Integrated Storage** > **Compute zone label** > **Diagnostics** page. Alternatively, run one of the following commands:

   - To repair a specific vdisk, use the following command:

```
HV_host#> onappstore repair uuid=
```

   - To repair all vdisks one by one, use the following command:

```
HV_host#>repairvdisks
```

   - To repair all vdisks in 10 threads simultaneously, use the following command:

```
HV_host#> parallelrepairvdisks
```

   Please note, that *parallelrepairvdisks* command performs the repairs much faster but makes an impact on the Integrated Storage SAN network. Vdisk performance may be slower during the repair.

> In case you have a Cloudboot Backup Server, you can perform these commands on the Backup Server. The repairs will be triggered across all Cloudboot compute zones.

3. Run the following command from the CP server to stop the OnApp service:

```
CP_host#> service onapp stop
```

4. Stop the Apache server:

```
CP_host#> service httpd stop
```

5.  Make sure to [update CloudBoot packages](#) before proceeding to the following steps.

6.  Run the following command from the Control Panel server terminal to display the list of compute resources with their IP addresses. Make a note of the list of IPs:

```
CP_host#> liveUpdate listHVs
```

This command will also show whether compute resources are eligible for live upgrade.

> If the command liveUpdate is not available then it may be located in the sbin directory instead (cd /usr/local/sbin).

7.  Run the following command for every compute resource:

```
CP_host#> liveUpdate updateToolstack <HV IP Addr>
```

Once all the toolstacks are updated run the following command for every compute resource:

```
CP_host#> liveUpdate refreshControllers <HV IP Addr>
```

> Wait several minutes for all degraded disks to come to synchronized state. The synchronization will take approximately three minutes for each compute resource.
>
> After each controller restart, check for any issues on the backup server (or on one Compute resource from each zone):
>
> 1. Log on via SSH to the backup server (or Compute resource).
> 2. Run getdegradednodes from the SSH console.
> 3. Run getdegradedvdisks from the SSH console.

8.  Restarts the storage controllers. This command can be **performed later at a more suitable time**.
    Run the following command for each compute resource in turn:

```
CP_host#> liveUpdate restartControllers <HV IP Addr>
```

> Please make sure you restart all controllers and don't leave your cloud in a partially updated state for too long. Note that when operating in LiveUpdated mode (e.g. with the tool stacks updated but before you have performed the controller restart) you cannot use disk hot plug.

> After each controller restart check for any issues on the backup server

> or one Hypervisor from each zone:
> 1. Log on via SSH to the backup server (or Hypervisor).
> 2. Run getdegradednodes from the SSH console.
> 3. Run getdegradedvdisks from the SSH console.
> If there are any issues seen please rectify them before continuing with the next controller restart.

9. Make sure that the package versions are upgraded by running the following command on each compute resource:

```
HV_host#> cat /onappstore/package-version.txt | grep Source
```

10. Start the Apache server:

```
CP_host#> service httpd start
```

11. Start the OnApp service:

```
CP_host#> service onapp start
```

## 3.7  Local Read Policy

Enabling Local Read on a compute zone ensures that the locally stored copy of the data will always be used for reads. This significantly reduces read latency and improves overall storage performance by reducing load on the 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. E.g. in a 2R4S data store there must be at least 4 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 either add additional drives to that compute resource and then add them to the data store or to disable read local.

**Getting support for your upgrade**

You can use the information in this document to perform your own upgrade to the 5.5 version of the OnApp Cloud. However, if you have a full OnApp Cloud license, you are entitled to free upgrade support from the OnApp Support team.

If you would prefer to have the Support team perform the upgrade for you, just raise a ticket in the normal way. Please be aware, however, that there may be a queue! For help with your upgrade, visit the OnApp community forum: http://forum.onapp.com.

# 4  Upgrade Guide for Cloud with Mixed CloudBooted and Static Servers

This guide explains how to upgrade OnApp Cloud v5.4 to the v5.5 for the cloud with the mixed CloudBooted servers and Static servers configuration. Follow the procedure listed below in the correct order to upgrade your cloud. Please follow the complete procedure of the upgrade process. All packages (Control Panel, CloudBoot, Compute resources) must belong to the same major version to ensure the best performance of your cloud.

**On this page:**

- [Important Notes](#)
- [Check Your Cloud Configuration](#)
    - o [Zone Types](#)
    - o [Networking](#)
- [Upgrade Control Panel Server](#)
    - o [Upgrade Control Panel Server from version 5.0 to 5.5](#)
    - o [Upgrade Control Panel Server from version 5.4 to 5.5](#)
- [Upgrade Static Compute Resources](#)
- [Upgrade CloudBoot Packages](#)
- [Upgrade CloudBoot Backup Servers](#)
- [Upgrade CloudBoot Compute Resources](#)
    - o [Simple Reboot](#)
    - o [Migrate and reboot](#)
    - o [Live Upgrade](#)
- [Local Read Policy](#)

*See also:*

*[Installation Guide](#)*

*[Upgrade Guide for Control Panel Server](#)*

*[Upgrade Guide for Cloud with CloudBooted Servers](#)*

*[Upgrade Guide for Cloud with Static Servers](#)*

*Search for other docs:*

Search

## 4.1  Important Notes

1. You must be running the latest patch of OnApp 5.4 version to upgrade to 5.5 version. If you are using an earlier version, please [upgrade to 5.4.](#) first.

2. Check the Activity Log in your OnApp CP dashboard if there are no transactions running in your cloud. If so, wait until all transactions are complete.

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

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

5. Be aware that from now on, OnApp Licensing has a standalone client.Use only 443 port to connect from Control Panel to licensing server.

6. We strongly recommend that you test all your custom scripts before upgrading your production environment.

7. Be aware that OnApp does not support UEFI on static compute resources. You should disable UEFI on your compute resources before installing OnApp.

8. If you are using the auto healing functionality for Integrated Storage, make sure to disable it before an upgrade.

9. If you are using Integrated Storage, refer to the OnApp IS Upgrade Paths for more information about the upgrade details.

- Drives assigned for use by Integrated Storage are identified using a disk signature that is generated using 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.

- If you are using WHMCS modules for OnApp, it is not recommended to update your cloud to the latest release. To ensure that all WHMCS modules are working correctly you need to be running an LTS OnApp version.

## 4.2  Check Your Cloud Configuration

This section applies only if you are upgrading from OnApp version 5.0 to 5.5. If you are upgrading from the 5.4 version proceed to the 'Upgrade Control Panel Server' section.

When updating your cloud from 5.0 to 5.5, a rake task will check whether your system is compatible with the changes introduced in OnApp 5.3 and 5.4. Your cloud must comply with both the new resource zone and networking requirements.

### 4.2.1  Zone Types

Starting with OnApp version 5.3, there's a strict system requirement that all compute resources, data stores, networks, and backup servers should be attached to zones. All compute, data store, network and backup server zones after the upgrade will have an assigned zone type. This type will be inherited by the compute resources, data stores, networks and backup servers in the zones. During the update to OnApp 5.3, the updater will check the cloud configuration. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud

configuration is correct, the CP updater will be run and new types will be set for your zones and resources automatically. Resources can be later moved only between zones of the same type.

- *Compute zones* can have the Virtual, Baremetal, Smart and VPC (Virtual Private Cloud) types.
- *Data store zones* can have the Virtual, Smart and VPC types.
- *Network zones* can have the Virtual, Baremetal, Smart and VPC types.
- *Backup server zones* can have the Virtual and Smart types.

For more information refer to Zone Types document.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all compute resources are assigned to compute zones
- all data stores are assigned to data store zones
- all networks are assigned to network zones
- all backup servers are assigned to backup server zones
- compute zones should not be mixed. Xen/KVM and vCloud Director compute resource cannot reside in one compute zone.
- network zones should not be mixed. All networks in a zone should be assigned to compute resources or compute zones of the same type.
- data store zones should not be mixed. All data stores in a zone should be assigned to compute resources or compute zones of the same type.
- backup server zones should not be mixed. All backup servers in a zone should be assigned to compute resources or compute zones of the same type.

> If any inconsistencies are detected in your system, the update procedure will stop and no types will be assigned to your zones and resources. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.3 will go smoothly, and all zones will acquire the corresponding zone type.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/production_upgrade.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- a compute resource that is not assigned to a compute zone has been detected. The ID and the label of the compute resource will be provided.
- a data store that is not assigned to a data store zone has been detected. The ID and the label of the data store will be provided.
- a network that is not assigned to a network zone has been detected. The ID and the label of the network will be provided.
- a backup server that is not assigned to a backup server zone has been detected. The ID and the label of the backup server will be provided.
- a mixed compute zone with vCloud Director compute resource(s) and compute resources of other type has been detected. The ID and the label of the compute zone which has mixed resources will be provided.

- a mixed network zone with networks which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the network zone will be provided.

- a mixed data store zone with data stores which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the data store zone will be provided.

- a mixed backup server zone with backup servers which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the backup server zone will be provided.

## 4.2.2  Networking

Starting with OnApp 5.4, networks are made up of sub-networks called IP nets which contain ranges of IP addresses. To make your system compatible with the new networking scheme, a rake task will run with the updater. The rake task will modify your networks to contain IP ranges and IP nets. If a network contains two or more consecutive IP addresses of the same range of addresses, they will be united into one IP range. Individual IPs will each constitute an IP range. For each of the IP ranges an IP net will be added to the network. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud configuration is correct, the CP updater will be run and your networks will be modified to include IP nets and IP ranges.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all VLANs indicated for the networks in the cloud should have a relevant value. The value for VLAN should not exceed 4095.

- all networks which have one or several IP addresses assigned to user(s) should be within a network zone

- all IP addresses added to the cloud should be represented with feasible values

- all network masks should have relevant lengths

- there should be no overlapping IP addresses in a single network

If one or several of the IP address you've added to the cloud do not correspond with their prefix, the system will offer to switch on the *force* option. When the *force* option is enabled, the system will automatically change the IP address to correspond with their prefix. For example, if you've had a 198.168.0.1/255.255.0.0 IP address with 8 as its prefix, the system will change the address to 198.168.0.1/255.0.0.0.

> If any inconsistencies are detected in your system, the update procedure will stop and the networks will undergo no changes. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.4 will go smoothly, and all networks will be modified to include IP nets and IP ranges.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/ip_consistency_check.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- an incorrect VLAN for a network has been detected. The ID and label of the network will be provided.

- a network that has an IP address assigned to a user and which is not in a network zone has been detected. The ID of the network, the ID of the assigned IP address and the ID of the user to whom the IP is assigned will be provided.

- an IP address which is represented incorrectly has been detected. The ID of the IP address will be provided.

- an IP address which does not correspond with its prefix has been detected. The ID of the network, the ID of the IP address and the existing and expected prefixes will be provided.

- overlapping IP addresses have been detected in one network. The IP addresses and the network ID will be provided.

## 4.3  Upgrade Control Panel Server

- CP installer for Installation and Upgrade contains a new *-D* option enabling to avoid OnApp database dumping during the install/upgrade.

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

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

### 4.3.1  Upgrade Control Panel Server from version 5.0 to 5.5

To upgrade your Control Panel server under RHEL/CentOS 6.x from OnApp 5.0 LTS to 5.5:

1. Download and install OnApp Control Panel update package:

```
# rpm -Uvh http://rpm.repo.onapp.com/repo/centos/6/x86_64/RPMS-
5.5/onapp-cp-update-5.5-1.noarch.rpm
```

2. Run the update script:

```
# /onapp/onapp-cp-update/onapp-cp-update.sh
```

The update script will be interrupted if any inconsistencies are detected in your system.

3. Check that the cloud has been successfully updated through OnApp versions 5.0-5.5:

```
# ls -1 /onapp/onapp-cp-update/.installed.*
    /onapp/onapp-cp-update/.installed.5.0
    /onapp/onapp-cp-update/.installed.5.1
    /onapp/onapp-cp-update/.installed.5.2
    /onapp/onapp-cp-update/.installed.5.3
```

```
        /onapp/onapp-cp-update/.installed.5.4
        /onapp/onapp-cp-update/.installed.5.5
```

If the update to a certain version has failed, it is required to manually remove the issue causing the failure and to restart the update script.

4. If the update has completed successfully, run the following command:

```
# service onapp start &&  service  httpd start
```

5. Ensure that all services are working:

```
# service onapp status &&  service  httpd status
```

## 4.3.2  Upgrade Control Panel Server from version 5.4 to 5.5

To upgrade your Control Panel server:

1. Download and install the latest OnApp YUM repository file:

   o

```
# rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
5.5.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.

   Edit the /onapp/onapp-cp.conf file to set Control Panel custom values

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'
ONAPP_CONN_SOCKET='/var/lib/mysql/mysql.sock'
```

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

```
MYSQL_WAIT_TIMEOUT=604800
MYSQL_MAX_CONNECTIONS=500
MYSQL_PORT=3306
```

# [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. 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 ans 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 1GB

```
MAX_UPLOAD_SIZE=1073741824
```

# Timeout before ping Redis Server to check if it is started. Default is 5 sec.

```
REDIS_PING_TIMEOUT=5
```

# OnApp Control Panel SSL certificates (please do not change if you aren't familar 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=
```

```
# vi /onapp/onapp-cp.conf
```

5.  Run Control Panel installer:

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

The full list of Control Panel installer options:

**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** |
| | |

**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]
```

| | |
|---|---|
| **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 |
| | |
| **REDIS_*** | Options are useful if Redis Server is already |

**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]
```

| | 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 |

**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]
```

| | |
|---|---|
| | Redis. |
| **--redis-sock=REDIS_PATH :** | 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 |

**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]
```

| | |
|---|---|
| | localhost/127.0.0.1 or box's public IP address (enlisted in SNMP_TRAP_IPS) Default values are 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. |

**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]
```

| | |
|---|---|
| **--ha-install** | Proceed with Control Panel and High Availability components installation. |
| **--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 |
| **-c CONFIG_FILE** | Custom installer configuration file. Otherwise, preinstalled one is used. |
| **-y** | update OS packages (except of OnApp provided) on the box with 'yum update'. |
| **-a** | Do not be 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** |

**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]
```

| | |
|---|---|
| | **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**<br>**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. |
| **-h** | print this info |

You may wish to reboot your Control Panel server to take advantage of a new kernel if it is installed. It is not required immediately as a part of the upgrade process though.

## 4.4  Upgrade Static Compute Resources

At first upgrade your static compute resources.

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

2.  Download and install the latest OnApp YUM repository file:

```
bash#> rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
5.5.noarch.rpm
```

3.  Upgrade OnApp compute resource installer package:

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

4.  Update your server OS components (if required):

For XEN compute resource:

```
bash# /onapp/onapp-hv-install/onapp-hv-xen-install.sh -y
```

For KVM compute resource:

```
bash# /onapp/onapp-hv-install/onapp-hv-kvm-install.sh -y
```

5.  Run compute resource installer:
For XEN compute resource:

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

For KVM compute resource:

```
bash# /onapp/onapp-hv-install/onapp-hv-kvm-install.sh
```

> Reboot XEN compute resource, which is running on CentOS 6.x, after upgrade to 4.4.3 XEN version.

6.  Reboot static compute resources.

For KVM compute resources only: the kernel package update is a part of "Upgrade Static Compute Resources" default procedure. So reboot is required, if kernel package was upgraded and customer is willing Compute Resource(s) running it (for security reason).

> If you do not have the /home/mq/onapp/messaging/credentials.yml file on your compute resources and you plan to deploy an 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']
```

To perform the configuration for a number of compute resources, separate their IPs with a space.

For information on manual configuration for Accelerator, refer to [RabbitMQ Configuration for Accelerator](#).

## 4.5 Upgrade CloudBoot Packages

Create a backup of the /tftpboot directory in case storage packages rollback will be needed.

To upgrade the OnApp Storage packages:

1. Upgrade the repo:

```
CP_host#> rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
5.5.noarch.rpm
```

2. Upgrade the packages:

Depending on the needed compute resource type, you should install  onapp-ramdisk-DISTRO-FLAVOR package(s), where:

DISTRO - CentOS6 or CentOS7
FLAVOR - XEN, KVM

Also it is required to install *yum install onapp-ramdisk-centos7-default* together with onappstore packages.

It is recommended to update all packages. Below you can find an example:

```
bash#> # yum install onapp-ramdisk-centos7-default
bash#> # yum update onapp-store-install
bash#> # yum update onapp-ramdisk-tools
bash#> # yum update onapp-ramdisk-centos6-kvm
bash#> # yum update onapp-ramdisk-centos6-xen
bash#> # yum update onapp-ramdisk-centos7-kvm
```

> After packages update go to the Control Panel's **Settings** menu >
> **Configuration** and click the **Save Configuration** button.

3. Run the script:

```
CP_host#> /onapp/onapp-store-install/onapp-store-install.sh
```

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

When run in the interactive mode, enter the required information.

## 4.6  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 CloudBooted 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.

## 4.7  Upgrade CloudBoot Compute Resources

- If you are upgrading from 5.4 to 5.5 all three upgrade options are applicable.

- If you are upgrading from 5.0 to 5.5 only the Simple Reboot and Migrate and Reboot upgrade options are applicable.

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 reboot** | This method involves migrating all virtual servers off each CloudBoot compute 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. |
| **Live Upgrade** | This method will upgrade Integrated Storage components but will not upgrade CloudBoot image. |

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 IS Upgrade Paths.
>
> If you are using the auto healing functionality for Integrated Storage, make sure to disable it before an upgrade.

### 4.7.1  Simple Reboot

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 clik 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.

## 4.7.2 Migrate and reboot

Live Upgrade is only applicable if your cloud is running latest 5.3 CloudBoot RPM.

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.  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.

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

3.  Click the **Compute Resources** icon.

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

5.  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.

6.  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.

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

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

### 4.7.3  Live Upgrade

Live Upgrade is only applicable if your cloud is running latest 5.3 CloudBoot RPM.

- Live Upgrade with passthrough is currently unsupported. Passthrough to storage means that network interface will be added to the Storage Controller Server without the bond and the Storage Controller Server will have the complete control over this interface.

- During the CloudBoot compute resource live upgrade, only the control stack for managing integrated storage is upgraded.  Other changes come into effect after the compute resource is next rebooted. Due to this, hot migration may fail between compute resource which is already rebooted and the one that hasn't.

- Do not make any changes to the cloud during the upgrade process!

- Any offline Cloudboot compute resources should be removed from the CP server before running live upgrade as the scripts expect to be able to speak to all compute resources during these steps.

- Please, consult OnApp IS Upgrade Paths to learn the minimum Integrated Storage version required for the current update to be performed in LiveUpgrade mode.

Use this procedure to upgrade without rebooting your servers:

1. Make sure no disks are out of sync. To do so, check the Diagnostics page in CP at **Dashboard** > **Integrated Storage** > **Compute zone label** > **Diagnostics**. Alternatively, log into a compute resource and run the command below:

```
HV_host#> getdegradedvdisks
```

2. Repair all the degraded disks before proceeding to the upgrade process. To do so, log in to your CP and go to **Integrated Storage** > **Compute zone label** > **Diagnostics** page. Alternatively, run one of the following commands:

    - To repair a specific vdisk, use the following command:

```
HV_host#> onappstore repair uuid=
```

    - To repair all vdisks one by one, use the following command:

```
HV_host#>repairvdisks
```

    - To repair all vdisks in 10 threads simultaneously, use the following command:

```
HV_host#> parallelrepairvdisks
```

Please note, that *parallelrepairvdisks* command performs the repairs much faster but makes an impact on the Integrated Storage SAN network. Vdisk performance may be slower during the repair.

> In case you have a Cloudboot Backup Server, you can perform these commands on the Backup Server. The repairs will be triggered across all Cloudboot compute zones.

3.  Run the following command from the CP server to stop the OnApp service:

```
CP_host#> service onapp stop
```

4.  Stop the Apache server:

```
CP_host#> service httpd stop
```

5.  Make sure to update CloudBoot packages before proceeding to the following steps.

6.  Run the following command from the Control Panel server terminal to display the list of compute resources with their IP addresses. Make a note of the list of IPs:

```
CP_host#> liveUpdate listHVs
```

This command will also show whether compute resources are eligible for live upgrade.

> If the command liveUpdate is not available then it may be located in the sbin directory instead (cd /usr/local/sbin).

7.  Run the following command for every compute resource:

```
CP_host#> liveUpdate updateToolstack <HV IP Addr>
```

Once all the toolstacks are updated run the following command for every compute resource:

```
CP_host#> liveUpdate refreshControllers <HV IP Addr>
```

> Wait several minutes for all degraded disks to come to synchronized state. The synchronization will take approximately three minutes for each compute resource.
>
> After each controller restart, check for any issues on the backup

> server (or on one Compute resource from each zone):
>
> 1. Log on via SSH to the backup server (or Compute resource).
> 2. Run getdegradednodes from the SSH console.
> 3. Run getdegradedvdisks from the SSH console.

8. Restarts the storage controllers. This command can be **performed later at a more suitable time**.
   Run the following command for each compute resource in turn:

```
CP_host#> liveUpdate restartControllers <HV IP Addr>
```

> Please make sure you restart all controllers and don't leave your cloud in a partially updated state for too long. Note that when operating in LiveUpdated mode (e.g. with the tool stacks updated but before you have performed the controller restart) you cannot use disk hot plug.

> After each controller restart check for any issues on the backup server or one Hypervisor from each zone:
> 1. Log on via SSH to the backup server (or Hypervisor).
> 2. Run getdegradednodes from the SSH console.
> 3. Run getdegradedvdisks from the SSH console.
> If there are any issues seen please rectify them before continuing with the next controller restart.

9. Make sure that the package versions are upgraded by running the following command on each compute resource:

```
HV_host#> cat /onappstore/package-version.txt | grep Source
```

10. Start the Apache server:

```
CP_host#> service httpd start
```

11. Start the OnApp service:

```
CP_host#> service onapp start
```

## 4.8  Local Read Policy

Enabling Local Read on a compute zone ensures that the locally stored copy of the data will always be used for reads. This significantly reduces read latency and improves overall storage

performance by reducing load on the 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. E.g. in a 2R4S data store there must be at least 4 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 either add additional drives to that compute resource and then add them to the data store or to disable read local.

**Getting support for your upgrade**

You can use the information in this document to perform your own upgrade to the 5.5 version of the OnApp Cloud. However, if you have a full OnApp Cloud license, you are entitled to free upgrade support from the OnApp Support team.

If you would prefer to have the Support team perform the upgrade for you, just raise a ticket in the normal way. Please be aware, however, that there may be a queue! For help with your upgrade, visit the OnApp community forum: http://forum.onapp.com.

# 5 Upgrade Guide for Cloud with Static Servers

This guide explains how to upgrade OnApp Cloud v5.4 to the v5.5 for the cloud where all servers are static.Follow the procedure listed below in the correct order to upgrade your cloud. All packages (Control Panel and Compute resources) must belong to the same major version to ensure the best performance of your cloud.

**On this page:**

- Important Notes
- Check Your Cloud Configuration
    - o Zone Types
    - o Networking
- Upgrade Control Panel Server
    - o Upgrade Control Panel Server from version 5.0 to 5.5
    - o Upgrade Control Panel Server from version 5.4 to 5.5
- Upgrade Static Compute Resources

***See also:***

*Installation Guide*

*Upgrade Guide for Control Panel Server*

*Upgrade Guide for Cloud with CloudBooted Servers*

*Upgrade Guide for Cloud with Mixed CloudBooted and Static Servers*

***Search for other docs:***

Search

## 5.1 Important Notes

1. You must be running the latest patch of OnApp 5.4 version to upgrade to 5.5 version. If you are using an earlier version, please upgrade to 5.4. first.

2. Check the Activity Log in your OnApp CP dashboard if there are no transactions running in your cloud. If so, wait until all transactions are complete.

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

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

5. Be aware that from now on, OnApp Licensing has a standalone client.Use only 443 port to connect from Control Panel to licensing server.

6. We strongly recommend that you test all your custom scripts before upgrading your production environment.

7. Be aware that OnApp does not support UEFI on static compute resources. You should disable UEFI on your compute resources before installing OnApp.

> If you are using WHMCS modules for OnApp, it is not recommended to update your cloud to the latest release. To ensure that all WHMCS modules are working correctly you need to be running an LTS OnApp version.

## 5.2 Check Your Cloud Configuration

> This section applies only if you are upgrading from OnApp version 5.0 to 5.5. If you are upgrading from the 5.4 version proceed to the 'Upgrade Control Panel Server' section.

When updating your cloud from 5.0 to 5.5, a rake task will check whether your system is compatible with the changes introduced in OnApp 5.3 and 5.4. Your cloud must comply with both the new resource zone and networking requirements.

### 5.2.1 Zone Types

Starting with OnApp version 5.3, there's a strict system requirement that all compute resources, data stores, networks, and backup servers should be attached to zones. All compute, data store, network and backup server zones after the upgrade will have an assigned zone type. This type will be inherited by the compute resources, data stores, networks and backup servers in the zones. During the update to OnApp 5.3, the updater will check the cloud configuration. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud configuration is correct, the CP updater will be run and new types will be set for your zones and resources automatically. Resources can be later moved only between zones of the same type.

- *Compute zones* can have the Virtual, Baremetal, Smart and VPC (Virtual Private Cloud) types.

- *Data store zones* can have the Virtual, Smart and VPC types.

- *Network zones* can have the Virtual, Baremetal, Smart and VPC types.

- *Backup server zones* can have the Virtual and Smart types.

For more information refer to Zone Types document.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all compute resources are assigned to compute zones

- all data stores are assigned to data store zones

- all networks are assigned to network zones

- all backup servers are assigned to backup server zones

- compute zones should not be mixed. Xen/KVM and vCloud Director compute resource cannot reside in one compute zone.

- network zones should not be mixed. All networks in a zone should be assigned to compute resources or compute zones of the same type.

- data store zones should not be mixed. All data stores in a zone should be assigned to compute resources or compute zones of the same type.

- backup server zones should not be mixed. All backup servers in a zone should be assigned to compute resources or compute zones of the same type.

> If any inconsistencies are detected in your system, the update procedure will stop and no types will be assigned to your zones and resources. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.3 will go smoothly, and all zones will acquire the corresponding zone type.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/production_upgrade.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- a compute resource that is not assigned to a compute zone has been detected. The ID and the label of the compute resource will be provided.

- a data store that is not assigned to a data store zone has been detected. The ID and the label of the data store will be provided.

- a network that is not assigned to a network zone has been detected. The ID and the label of the network will be provided.

- a backup server that is not assigned to a backup server zone has been detected. The ID and the label of the backup server will be provided.

- a mixed compute zone with vCloud Director compute resource(s) and compute resources of other type has been detected. The ID and the label of the compute zone which has mixed resources will be provided.

- a mixed network zone with networks which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the network zone will be provided.

- a mixed data store zone with data stores which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the data store zone will be provided.

- a mixed backup server zone with backup servers which are assigned to compute zones or compute resources of different types has been detected. The ID and the label of the backup server zone will be provided.

## 5.2.2 Networking

Starting with OnApp 5.4, networks are made up of sub-networks called IP nets which contain ranges of IP addresses. To make your system compatible with the new networking scheme, a rake task will run with the updater. The rake task will modify your networks to contain IP ranges and IP nets. If a network contains two or more consecutive IP addresses of the same range of addresses, they will be united into one IP range. Individual IPs will each constitute an IP range. For each of the IP ranges an IP net will be added to the network. If at least one conflict is found in the configuration, the cloud will not be updated. If your cloud configuration is correct, the CP updater will be run and your networks will be modified to include IP nets and IP ranges.

Prior to the update procedure, it is required to check your cloud configuration. The cloud should comply with the following requirements for a successful upgrade:

- all VLANs indicated for the networks in the cloud should have a relevant value. The value for VLAN should not exceed 4095.

- all networks which have one or several IP addresses assigned to user(s) should be within a network zone

- all IP addresses added to the cloud should be represented with feasible values

- all network masks should have relevant lengths

- there should be no overlapping IP addresses in a single network

If one or several of the IP address you've added to the cloud do not correspond with their prefix, the system will offer to switch on the *force* option. When the *force* option is enabled, the system will automatically change the IP address to correspond with their prefix. For example, if you've had a 198.168.0.1/255.255.0.0 IP address with 8 as its prefix, the system will change the address to 198.168.0.1/255.0.0.0.

> If any inconsistencies are detected in your system, the update procedure will stop and the networks will undergo no changes. In such a case, you need to address the issues that have been found and run the CP updater again. If it is not possible to fix the cloud configuration, please, contact our support team.
>
> If the configuration of the cloud meets the requirements listed above, the update to OnApp 5.4 will go smoothly, and all networks will be modified to include IP nets and IP ranges.

When you run the Control Panel updater the system will check your configuration. You can view the log at log/ip_consistency_check.log. If any inconsistencies are found, the log might contain any of the following warning messages:

- an incorrect VLAN for a network has been detected. The ID and label of the network will be provided.

- a network that has an IP address assigned to a user and which is not in a network zone has been detected. The ID of the network, the ID of the assigned IP address and the ID of the user to whom the IP is assigned will be provided.

- an IP address which is represented incorrectly has been detected. The ID of the IP address will be provided.

- an IP address which does not correspond with its prefix has been detected. The ID of the network, the ID of the IP address and the existing and expected prefixes will be provided.

- overlapping IP addresses have been detected in one network. The IP addresses and the network ID will be provided.

## 5.3  Upgrade Control Panel Server

### 5.3.1  Upgrade Control Panel Server from version 5.0 to 5.5

To upgrade your Control Panel server under RHEL/CentOS 6.x from OnApp 5.0 LTS to 5.5:

1.  Download and install OnApp Control Panel update package:

```
# rpm -Uvh http://rpm.repo.onapp.com/repo/centos/6/x86_64/RPMS-
```

```
5.5/onapp-cp-update-5.5-1.noarch.rpm
```

2.  Run the update script:

```
# /onapp/onapp-cp-update/onapp-cp-update.sh
```

> The update script will be interrupted if any inconsistencies are detected in your system.

3.  Check that the cloud has been successfully updated through OnApp versions 5.0-5.5:

```
# ls -1 /onapp/onapp-cp-update/.installed.*
    /onapp/onapp-cp-update/.installed.5.0
    /onapp/onapp-cp-update/.installed.5.1
    /onapp/onapp-cp-update/.installed.5.2
    /onapp/onapp-cp-update/.installed.5.3
    /onapp/onapp-cp-update/.installed.5.4
    /onapp/onapp-cp-update/.installed.5.5
```

If the update to a certain version has failed, it is required to manually remove the issue causing the failure and to restart the update script.

4.  If the update has completed successfully, run the following command:

```
# service onapp start &&  service  httpd start
```

5.  Ensure that all services are working:

```
# service onapp status &&  service  httpd status
```

## 5.3.2  Upgrade Control Panel Server from version 5.4 to 5.5

To upgrade your Control Panel server:

1.  Download and install the latest OnApp YUM repository file:

o

```
            # rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
            5.5.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.

Edit the /onapp/onapp-cp.conf file to set Control Panel custom values

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'
ONAPP_CONN_SOCKET='/var/lib/mysql/mysql.sock'
```

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

```
MYSQL_WAIT_TIMEOUT=604800
MYSQL_MAX_CONNECTIONS=500
MYSQL_PORT=3306
```

# [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. 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 ans 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 1GB

```
MAX_UPLOAD_SIZE=1073741824
```

# Timeout before ping Redis Server to check if it is started. Default is 5 sec.

```
REDIS_PING_TIMEOUT=5
```

# OnApp Control Panel SSL certificates (please do not change if you aren't familar 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=
```

```
# vi /onapp/onapp-cp.conf
```

5. Run Control Panel installer:

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

The full list of Control Panel installer options:

**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 |

**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]
```

| | |
|---|---|
| | /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 |
| | |
| **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 |

**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]
```

| | |
|---|---|
| | 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.<br>Defaults are:<br>0 - if local server<br>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.<br>By default no password is used for local Redis. |
| **--redis-sock=REDIS_PATH :** | 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. |

**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]
```

| | |
|---|---|
| | 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 values are 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'. |

**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]
```

| | |
|---|---|
| **--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. |
| | |
| **--ha-install** | Proceed with Control Panel and High Availability components installation. |
| **--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 |

**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]
```

| | |
|---|---|
| **-i SNMP_TRAP_IPS** | IP addresses separated with coma for snmp to trap |
| **-c CONFIG_FILE** | Custom installer configuration file. Otherwise, preinstalled one is used. |
| **-y** | update OS packages (except of OnApp provided) on the box with 'yum update'. |
| **-a** | Do not be 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**<br>**Please note, crond and all OnApp's cron** |

**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]
```

| | |
|---|---|
| | **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. |
| **-h** | print this info |

You may wish to reboot your Control Panel server to take advantage of a new kernel if it is installed. It is not required immediately as a part of the upgrade process though.

> If you face the problem with viewing the maps on VS/Smart/Application server creation wizard (Locations step), refer to the Add Google Map API Key document.

## 5.4  Upgrade Static Compute Resources

At first upgrade your static compute resources.

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

2.  Download and install the latest OnApp YUM repository file:

```
bash#> rpm -Uvh http://rpm.repo.onapp.com/repo/onapp-repo-
5.5.noarch.rpm
```

3.  Upgrade OnApp compute resource installer package:

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

4.  Update your server OS components (if required):

    For XEN compute resource:

```
bash# /onapp/onapp-hv-install/onapp-hv-xen-install.sh -y
```

    For KVM compute resource:

```
bash# /onapp/onapp-hv-install/onapp-hv-kvm-install.sh -y
```

5.  Run compute resource installer:
    For XEN compute resource:

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

    For KVM compute resource:

```
bash# /onapp/onapp-hv-install/onapp-hv-kvm-install.sh
```

> Reboot XEN compute resource, which is running on CentOS 6.x, after upgrade to 4.4.3 XEN version.

6.  Reboot static compute resources.

    For KVM compute resources only: the kernel package update is a part of "Upgrade Static Compute Resources" default procedure. So reboot is required, if kernel package was upgraded and customer is willing Compute Resource(s) running it (for security reason).

> If you do not have the /home/mq/onapp/messaging/credentials.yml file on your compute resources and you plan to deploy an 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']
```

To perform the configuration for a number of compute resources, separate their IPs with a space.

For information on manual configuration for Accelerator, refer to RabbitMQ Configuration for Accelerator.

**Getting support for your upgrade**

You can use the information in this document to perform your own upgrade to the 5.5 version of the OnApp Cloud. However, if you have a full OnApp Cloud license, you are entitled to free upgrade support from the OnApp Support team.

If you would prefer to have the Support team perform the upgrade for you, just raise a ticket in the normal way. Please be aware, however, that there may be a queue! For help with your upgrade, visit the OnApp community forum: http://forum.onapp.com.

# 6  Upgrade to Custom Control Panel Version

> You should use the standard upgrade procedure whenever possible to ensure you have the latest features and fixes. Only use the custom upgrade when you have a specific reason for installing an older version.

With OnApp you can upgrade to a custom CP version, i.e. not the latest one available in production. Make sure to update within the same major version. For example, you can upgrade from 3.2.2-9 to 3.2.2-x, but not from 3.0.x-x to 3.2.x-x.

To upgrade to the specific OnApp Control Panel version, perform the following steps:

1. Run the following command to eliminate all of the files which yum uses to determine the remote availability of packages:

```
# yum clean metadata
```

2. Remove OnApp:

```
# yum remove onapp-cp
```

3. Install OnApp Control Panel installer package for the required Control Panel version:

```
# yum install onapp-cp-<ONAPP_VERSION>
```

**Where:**
ONAPP_VERSION - the required OnApp version with its build, e.g. `3.2.2-15`

---

*See also:*

*Upgrade Guide for Control Panel Server*

*Upgrade Guide for Cloud with CloudBooted Servers*

*Upgrade Guide for Cloud with Static Servers*

*Upgrade Guide for Cloud with Mixed CloudBooted and Static Servers*

# 7  OS Components Upgrade

From now on, there is a possibility to update the OS components for static Compute resource, Control Panel Server, and static Backup Server outside of the distributive packages provided by OnApp.

To do so:

1.  Upgrade the installer:

    o  **For Control Panel**

    ```
    bash#> yum update onapp-cp-install
    ```

    o  **For Compute resource**

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

    o  **For Backup Server**

    ```
    bash#> yum update onapp-bk-install
    ```

2.  Run the following script to update the OS components

    o  **For Control Panel**

    ```
    bash# /onapp/onapp-cp-install/onapp-cp-install.sh -y
    ```

    o  **For XEN Compute resource**

    ```
    bash# /onapp/onapp-hv-install/onapp-hv-xen-install.sh
    -y
    ```

    o  **For KVM Compute resource**

    ```
    bash# /onapp/onapp-hv-install/onapp-hv-kvm-install.sh
    -y
    ```

    o  **For Backup Server**

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

***See also:***

*[Upgrade Guide for Control Panel Server](#)*

*[Upgrade Guide for Cloud with CloudBooted Servers](#)*

*[Upgrade Guide for Cloud with Static Servers](#)*

*[Upgrade Guide for Cloud with Mixed CloudBooted and Static Servers](#)*

# 8   OnApp IS Upgrade Paths

| IS Version upgrading to | 5.0.0-21 | 5.1.0-5 | 5.2.0-5 | 5.3 | 5.4 | 5.5 |
|---|---|---|---|---|---|---|
| Upgrade by "Simple Reboot" | Yes | Yes | Yes | Yes | Yes | Yes |
| Upgrade by "Migrate and Reboot" | Yes | Yes | Yes | Yes | Yes* | Yes |
| Upgrade by "LiveUpgrade" | N/A | N/A | Yes | N/A | Yes* | Yes |

\* Applicable only for CentOS 6 KVM/XEN

Yes - recommended by OnApp
N/A - not recommended by OnApp, will not update properly the Cloudboot OS or Integrated Storage

- For versions < 5.0 please use only "Simple Reboot" upgrade method. Use "Migrate and reboot" only if you are running 4.2.1-8.

- For information about upgrade of versions previous to 5.0.0-21, refer to the OnApp IS Upgrade Paths (4.0.0-3 - 4.2.1-11 versions) section.

## 8.1   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 the CloudBoot OS, as this platform is very 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 the CloudBoot compute resource to be rebooted after upgrade. However in case of critical updates and fixes it can be required to reboot the CloudBoot compute resource for them to take full effect. Currently only version 4.1 requires to be rebooted after Integrated Storage update. OnApp will notify in future release notes if the Simple Reboot method is the recommended way to upgrade.

### 8.1.1   Each upgrade procedure explanation:

**Simple Reboot**

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

**Migrate and Reboot**

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

**LiveUpgrade**

This upgrade method upgrades the Integrated Storage platform only. Your VSs will remain online. There is almost no risk of data loss and zero downtime. However this method does not update the CloudBoot OS, you will not get the security patches, kernel upgrades and updated drivers if they are included in the release.

> Starting from OnApp 5.3 version, each CloudBoot OS image is divided to a separate package for better experience and support. For example if the CentOS 6 Xen CloudBoot OS image receives a security patch it will be updated and released by OnApp. Only this image will be downloaded during the upgrade procedure, saving internet traffic and time.

Please contact our Support team if you are unsure regarding the right upgrade path for you to ensure you choose the right path for you and your clients.