# Citrix CloudPlatform (powered by Apache CloudStack) Version 3.0.5 Patch A Release Notes

**Revised November 9, 2012 12:45 pm Pacific**

**WARNING: Security Vulnerability Reported.**
**Immediate Action Advised. See *Security Vulnerability*.**

**CITRIX**

# Citrix CloudPlatform (powered by Apache CloudStack) Version 3.0.5 Patch A Release Notes
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Release notes for CloudPlatform version 3.0.5 Patch A.

# Security Vulnerability Reported: Immediate Action Advised

We have received a report of a serious security vulnerability in CloudStack and CloudPlatform. The vulnerability allows an attacker to use a system account to issue any CloudStack API command as an administrator. The attacker could, for example, delete all VMs in the system.

We have verified that this vulnerability exists on all CloudStack and CloudPlatform versions.

At this time, we believe knowledge of the vulnerability is limited to a few individuals. No known exploits have occurred. However, we still recommend urgent action, particularly for public clouds.

> ⚠️ **Warning**
>
> This is a serious vulnerability that requires your immediate attention and action.

## Action Required

The vulnerability can be fixed with a single MySQL command.

1. First, log in to MySQL:

   ```
   [root@host] # mysql -u cloud -p your-password -h host-ip-address
   ```

2. Then add a random password to the system account:

   ```
   Mysql> update `cloud`.`user` set password=RAND() where id=1;
   ```

# Submitting Feedback and Getting Help

The support team is available to help customers plan and execute their installations. To contact the support team, log in to *the Support Portal*[1] by using the account credentials you received when you purchased your support contract.

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[1] http://support.citrix.com/cms/kc/cloud-home/

# Upgrade Instructions

## 3.1. Upgrade from 3.0.x to 3.0.5 Patch A

Perform the following to upgrade from version 3.0.0, 3.0.1, 3.0.2, 3.0.3, 3.0.4, or 3.0.5 to version 3.0.5 Patch A.

1. If you are upgrading from 3.0.0 or 3.0.1, ensure that you query your IP address usage records and process them; for example, issue invoices for any usage that you have not yet billed users for.

   Starting in 3.0.2, the usage record format for IP addresses is the same as the rest of the usage types. See *bug CS-8222*[1]). Instead of a single record with the assignment and release dates, separate records are generated per aggregation period with start and end dates. After upgrading, any existing IP address usage records in the old format will no longer be available.

2. (VMware only) In each zone that includes VMware hosts, you need to add a new system VM template.

   > **Note**
   >
   > If you are upgrading from v3.0.5, you can skip this step.

   a. While running the existing 3.0.x system, log in to the UI as root administrator.

   b. In the left navigation bar, click Templates.

   c. In Select view, click Templates.

   d. Click Register template.

      The Register template dialog box is displayed.

   e. In the Register template dialog box, specify the following values (do not change these):

   | Field | Value |
   | --- | --- |
   | Name | systemvm-vmware-3.0.5 |
   | Description | systemvm-vmware-3.0.5 |
   | URL | http://download.cloud.com/templates/burbank/burbank-systemvm-08012012.ova |
   | Zone | Choose the zone where this hypervisor is used |
   | Hypervisor | VMware |
   | Format | OVA |
   | OS Type | Debian GNU/Linux 5.0 (32-bit) |
   | Extractable | no |
   | Password Enabled | no |

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[1] http://bugs.cloudstack.org/browse/CS-8222

| Field | Value |
|-------|-------|
| Public | no |
| Featured | no |

    f.   Watch the screen to be sure that the template downloads successfully and enters the READY state. Do not proceed until this is successful.

3. Stop all Usage Servers if running. Run this on all Usage Server hosts.

```
# service cloud-usage stop
```

4. Stop the Management Servers. Run this on all Management Server hosts.

```
# service cloud-management stop
```

5. On the MySQL master, take a backup of the MySQL databases. We recommend performing this step even in test upgrades. If there is an issue, this will assist with debugging.

   In the following commands, it is assumed that you have set the root password on the database, which is a CloudPlatform recommended best practice. Substitute your own MySQL root password.

```
# mysqldump -u root -p<mysql_password> cloud > cloud-backup.dmp
# mysqldump -u root -p<mysql_password> cloud_usage > cloud-usage-backup.dmp
```

6. Download CloudPlatform 3.0.5 Patch A onto the management server host where it will run. Get the software from the following link:

   *https://www.citrix.com/English/ss/downloads/.*

   You need a *My Citrix Account*[2].

7. Upgrade the CloudPlatform packages. You should have a file in the form of "CloudStack-3.0.5-N-OSVERSION.tar.gz". Untar the file, then run the install.sh script inside it. Replace the file and directory names below with those you are using:

```
# tar xzf CloudStack-3.0.5-N-OSVERSION.tar.gz
# cd CloudStack-3.0.5-N-OSVERSION
# ./install.sh
```

   You should see a few messages as the installer prepares, followed by a list of choices.

8. Choose "U" to upgrade the package

```
> U
```

   You should see some output as the upgrade proceeds, ending with a message like "Complete! Done."

9. If you have made changes to your existing copy of the file components.xml in your previous-version CloudPlatform installation, the changes will be preserved in the upgrade. However,

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[2] http://www.citrix.com/lang/English/publicindex.asp?destURL=%2FEnglish%2FmyCitrix%2Findex.asp%3F#

you need to do the following steps to place these changes in a new version of the file which is compatible with version 3.0.5.

> **Note**
>
> If you are upgrading from v3.0.5, you can skip this step.

> **Note**
>
> How will you know whether you need to do this? If the upgrade output in the previous step included a message like the following, then some custom content was found in your old components.xml, and you need to merge the two files:

```
warning: /etc/cloud/management/components.xml created as /etc/cloud/management/
components.xml.rpmnew
```

a. Make a backup copy of your /etc/cloud/management/components.xml file. For example:

```
# mv /etc/cloud/management/components.xml /etc/cloud/management/components.xml-backup
```

b. Copy /etc/cloud/management/components.xml.rpmnew to create a new /etc/cloud/management/components.xml:

```
# cp -ap /etc/cloud/management/components.xml.rpmnew /etc/cloud/management/
components.xml
```

c. Merge your changes from the backup file into the new components.xml file.

```
# vi /etc/cloud/management/components.xml
```

10. Repeat steps 6 - 9 on each management server node.

11. Start the first Management Server. Do not start any other Management Server nodes yet.

```
# service cloud-management start
```

Wait until the databases are upgraded. Ensure that the database upgrade is complete. After confirmation, start the other Management Servers one at a time by running the same command on each node.

> **Note**
>
> Failing to restart the Management Server indicates a problem in the upgrade. Having the Management Server restarted without any issues indicates that the upgrade is successfully completed.

12. Start all Usage Servers (if they were running on your previous version). Perform this on each Usage Server host.

```
# service cloud-usage start
```

13. (KVM only) Additional steps are required for each KVM host. These steps will not affect running guests in the cloud. These steps are required only for clouds using KVM as hosts and only on the KVM hosts.

    a.  Copy the CloudPlatform 3.0.5 Patch A tar file to the host, untar it, and change directory to the resulting directory.

    b.  Stop the running agent.

    ```
    # service cloud-agent stop
    ```

    c.  Update the agent software.

    ```
    # ./install.sh
    ```

    d.  Choose "U" to update the packages.

    ```
    > U
    ```

    e.  Start the agent.

    ```
    # service cloud-agent start
    ```

14. Log in to the CloudPlatform UI as administrator, and check the status of the hosts. All hosts should come to Up state (except those that you know to be offline). You may need to wait 20 or 30 minutes, depending on the number of hosts.

> **Note**
>
> Troubleshooting: If login fails, clear your browser cache and reload the page.

    Do not proceed to the next step until the hosts show in Up state. If the hosts do not come to the Up state, contact support.

15. If you are upgrading from 3.0.1 or 3.0.2, perform the following:

    a.  Ensure that the admin port is set to 8096 by using the "integration.api.port" global parameter.

        This port is used by the cloud-sysvmadm script at the end of the upgrade procedure. For information about how to set this parameter, see "Edit the Global Configuration Settings" in the Advanced Installation Guide.

    b.  Restart the Management Server.

> **Note**
>
> If you don't want the admin port to remain open, you can set it to null after the upgrade is done and restart the management server

16. Run the following script to stop, then start, all Secondary Storage VMs, Console Proxy VMs, and virtual routers. Run the script once on one management server. Substitute your own IP address of the MySQL instance, the MySQL user to connect as, and the password to use for that user. In addition to those parameters, provide the "-c" and "-r" arguments. For example:

```
# nohup cloud-sysvmadm -d 192.168.1.5 -u cloud -p password -c -r > sysvm.log 2>&1 &
```

This might take up to an hour or more to run, depending on the number of accounts in the system.

After the script terminates, check the log:

```
# tail -f sysvm.log
```

The output should look like this:

```
Stopping and starting 1 secondary storage vm(s)...
Done stopping and starting secondary storage vm(s)
Stopping and starting 1 console proxy vm(s)...
Done stopping and starting console proxy vm(s).
Stopping and starting 4 running routing vm(s)...
Done restarting router(s).
```

17. If needed, upgrade all Citrix XenServer hypervisor hosts in your cloud to a version supported by CloudPlatform 3.0.5. The supported versions are XenServer 5.6 SP2 and 6.0.2. Instructions for upgrade can be found in the *CloudPlatform 3.0.5 Installation Guide.*[3]

18. Now apply the XenServer hotfix XS602E003 (and any other needed hotfixes) to XenServer v6.0.2 hypervisor hosts.

    a. Disconnect the XenServer cluster from CloudPlatform.

       In the left navigation bar of the CloudPlatform UI, select Infrastructure. Under Clusters, click View All. Select the XenServer cluster and click Actions - Unmanage.

       This may fail if there are hosts not in one of the states Up, Down, Disconnected, or Alert. You may need to fix that before unmanaging this cluster.

       Wait until the status of the cluster has reached Unmanaged. Use the CloudPlatform UI to check on the status. When the cluster is in the unmanaged state, there is no connection to the hosts in the cluster.

    b. To clean up the VLAN, log in to one XenServer host and run:

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[3] http://support.citrix.com/article/CTX133611

```
/opt/xensource/bin/cloud-clean-vlan.sh
```

c.  Now prepare the upgrade by running the following on one XenServer host:

```
/opt/xensource/bin/cloud-prepare-upgrade.sh
```

If you see a message like "can't eject CD", log in to the VM and umount the CD, then run this script again.

d.  Upload the hotfix to the XenServer hosts. Always start with the Xen pool master, then the slaves. Using your favorite file copy utility (e.g. WinSCP), copy the hotfixes to the host. Place them in a temporary folder such as /root or /tmp.

On the Xen pool master, upload the hotfix with this command:

```
xe patch-upload file-name=XS602E003.xsupdate
```

Make a note of the output from this command, which is a UUID for the hotfix file. You'll need it in another step later.

> **Note**
>
> (Optional) If you are applying other hotfixes as well, you can repeat the commands in this section with the appropriate hotfix number. For example, XS602E004.xsupdate.

e.  Manually live migrate all VMs on this host to another host. First, get a list of the VMs on this host:

```
# xe vm-list
```

Then use this command to migrate each VM. Replace the example host name and VM name with your own:

```
# xe vm-migrate live=true host=<host-name> vm=<VM-name>
```

**Troubleshooting:** If you see a message like "You attempted an operation on a VM which requires PV drivers to be installed but the drivers were not detected," run /opt/xensource/bin/make_migratable.sh b6cf79c8-02ee-050b-922f-49583d9f1a14.

f.  Apply the hotfix. First, get the UUID of this host:

```
# xe host-list
```

Then use the following command to apply the hotfix. Replace the example host UUID with the current host ID, and replace the hotfix UUID with the output from the patch-upload command you ran on this machine earlier. You can also get the hotfix UUID by running xe patch-list.

```
xe patch-apply host-uuid=<host-uuid> uuid=<hotfix-uuid>
```

g. Copy the following files from the CloudPlatform Management Server to the host.

| Copy from here... | ...to here |
|---|---|
| /usr/lib64/cloud/agent/ scripts/vm/hypervisor/ xenserver/xenserver60/ NFSSR.py | /opt/xensource/sm/NFSSR.py |
| /usr/lib64/cloud/agent/ scripts/vm/hypervisor/ xenserver/setupxenserver.sh | /opt/xensource/bin/setupxenserver.sh |
| /usr/lib64/cloud/ agent/scripts/vm/ hypervisor/xenserver/ make_migratable.sh | /opt/xensource/bin/make_migratable.sh |

h. (Only for hotfixes XS602E005 and XS602E007) You need to apply a new Cloud Support Pack.

- Download the CSP software onto the XenServer host from one of the following links:

  For hotfix XS602E005: *http://download.cloud.com/support/csp/56710/xenserver-cloud-supp.tgz*

  For hotfix XS602E007: *http://download.cloud.com/support/csp/57824/xenserver-cloud-supp.tgz*

- Extract the file:

  ```
  # tar xf xenserver-cloud-supp.tgz
  ```

- Run the following script:

  ```
  # xe-install-supplemental-pack xenserver-cloud-supp.iso
  ```

- If the XenServer host is part of a zone that uses basic networking, disable Open vSwitch (OVS):

  ```
  # xe-switch-network-backend  bridge
  ```

i. Reboot this XenServer host.

j. Run the following:

```
/opt/xensource/bin/setupxenserver.sh
```

> **Note**
>
> If the message "mv: cannot stat `/etc/cron.daily/logrotate': No such file or directory" appears, you can safely ignore it.

k.  Run the following:

```
for pbd in `xe pbd-list currently-attached=false| grep ^uuid | awk '{print $NF}'`; do
  xe pbd-plug uuid=$pbd ;
```

l.  On each slave host in the Xen pool, repeat these steps, starting from "manually live migrate VMs."

> **Note**
>
> Troubleshooting tip: If passwords which you know to be valid appear not to work after upgrade, or other UI issues are seen, try clearing your browser cache and reloading the UI page.

## 3.2. Upgrade from 2.2.x to 3.0.5 Patch A

1.  Ensure that you query your IPaddress usage records and process them; for example, issue invoices for any usage that you have not yet billed users for.

    Starting in 3.0.2, the usage record format for IP addresses is the same as the rest of the usage types. See *CS-8222*[4]. Instead of a single record with the assignment and release dates, separate records are generated per aggregation period with start and end dates. After upgrading to 3.0.5, any existing IP address usage records in the old format will no longer be available.

2.  If you are using version 2.2.0 - 2.2.13, first upgrade to 2.2.14 by using the instructions in the *2.2.14 Release Notes*[5].

> **Note**
>
> (KVM only) If KVM hypervisor is used in your cloud, be sure you completed the step to insert a valid username and password into the host_details table on each KVM node as described in the 2.2.14 Release Notes. This step is critical, as the database will be encrypted after the upgrade to 3.0.5.

3.  While running the 2.2.14 system, log in to the UI as root administrator.

---

[4] http://bugs.cloudstack.org/browse/CS-8222
[5] http://support.citrix.com/article/CTX132692

4. Using the UI, add a new System VM template for each hypervisor type that is used in your cloud. In each zone, add a system VM template for each hypervisor used in that zone

    a. In the left navigation bar, click Templates.

    b. In Select view, click Templates.

    c. Click Register template.

       The Register template dialog box is displayed.

    d. In the Register template dialog box, specify the following values depending on the hypervisor type (do not change these):

| Hypervisor | Description |
|---|---|
| XenServer | Name: systemvm-xenserver-3.0.0 |
| | Description: systemvm-xenserver-3.0.0 |
| | URL: http://download.cloud.com/templates/acton/acton-systemvm-02062012.vhd.bz2 |
| | Zone: Choose the zone where this hypervisor is used |
| | Hypervisor: XenServer |
| | Format: VHD |
| | OS Type: Debian GNU/Linux 5.0 (32-bit) |
| | Extractable: no |
| | Password Enabled: no |
| | Public: no |
| | Featured: no |
| KVM | Name: systemvm-kvm-3.0.0 |
| | Description: systemvm-kvm-3.0.0 |
| | URL: http://download.cloud.com/templates/acton/acton-systemvm-02062012.qcow2.bz2 |
| | Zone: Choose the zone where this hypervisor is used |
| | Hypervisor: KVM |
| | Format: QCOW2 |
| | OS Type: Debian GNU/Linux 5.0 (32-bit) |
| | Extractable: no |
| | Password Enabled: no |
| | Public: no |
| | Featured: no |

| Hypervisor | Description |
|---|---|
| VMware | Name: systemvm-vmware-3.0.5 |
| | Description: systemvm-vmware-3.0.5 |
| | URL: http://download.cloud.com/templates/burbank/burbank-systemvm-08012012.ova |
| | Zone: Choose the zone where this hypervisor is used |
| | Hypervisor: VMware |
| | Format: OVA |
| | OS Type: Debian GNU/Linux 5.0 (32-bit) |
| | Extractable: no |
| | Password Enabled: no |
| | Public: no |
| | Featured: no |

    e.  Watch the screen to be sure that the template downloads successfully and enters the READY state. Do not proceed until this is successful

    f.  **WARNING**: If you use more than one type of hypervisor in your cloud, be sure you have repeated these steps to download the system VM template for each hypervisor type. Otherwise, the upgrade will fail.

5.  Stop all Usage Servers if running. Run this on all Usage Server hosts.

```
# service cloud-usage stop
```

6.  Stop the Management Servers. Run this on all Management Server hosts.

```
# service cloud-management stop
```

7.  On the MySQL master, take a backup of the MySQL databases. We recommend performing this step even in test upgrades. If there is an issue, this will assist with debugging.

In the following commands, it is assumed that you have set the root password on the database, which is a CloudPlatform recommended best practice. Substitute your own MySQL root password.

```
# mysqldump -u root -p<mysql_password> cloud > cloud-backup.dmp
# mysqldump -u root -p<mysql_password> cloud_usage > cloud-usage-backup.dmp
```

8.  Download CloudPlatform 3.0.5 Patch A onto the management server host where it will run. Get the software from the following link:

*https://www.citrix.com/English/ss/downloads/*

You need a *My Citrix Account*[6].

9. Upgrade the CloudPlatform packages. You should have a file in the form of "CloudStack-3.0.5-N-OSVERSION.tar.gz". Untar the file, then run the install.sh script inside it. Replace the file and directory names below with those you are using:

```
# tar xzf CloudStack-3.0.5-N-OSVERSION.tar.gz
# cd CloudStack-3.0.5-N-OSVERSION
# ./install.sh
```

You should see a few messages as the installer prepares, followed by a list of choices.

10. Choose "U" to upgrade the package.

```
> U
```

You should see some output as the upgrade proceeds, ending with a message like "Complete! Done."

11. If you have made changes to your existing copy of the file components.xml in your previous-version CloudPlatform installation, the changes will be preserved in the upgrade. However, you need to do the following steps to place these changes in a new version of the file which is compatible with version 3.0.5.

> **Note**
>
> How will you know whether you need to do this? If the upgrade output in the previous step included a message like the following, then some custom content was found in your old components.xml, and you need to merge the two files:
>
> ```
> warning: /etc/cloud/management/components.xml created as /etc/cloud/management/
> components.xml.rpmnew
> ```

a. Make a backup copy of your /etc/cloud/management/components.xml file. For example:

```
# mv /etc/cloud/management/components.xml /etc/cloud/management/components.xml-backup
```

b. Copy /etc/cloud/management/components.xml.rpmnew to create a new /etc/cloud/management/components.xml:

```
# cp -ap /etc/cloud/management/components.xml.rpmnew /etc/cloud/management/
components.xml
```

c. Merge your changes from the backup file into the new components.xml file.

```
# vi /etc/cloud/management/components.xml
```

---

[6] http://www.citrix.com/lang/English/publicindex.asp?destURL=%2FEnglish%2FmyCitrix%2Findex.asp%3F#

12. If you have made changes to your existing copy of the /etc/cloud/management/db.properties file in your previous-version CloudPlatform installation, the changes will be preserved in the upgrade. However, you need to do the following steps to place these changes in a new version of the file which is compatible with version 3.0.5.

    a. Make a backup copy of your file /etc/cloud/management/db.properties. For example:

    ```
    # mv /etc/cloud/management/db.properties /etc/cloud/management/db.properties-backup
    ```

    b. Copy /etc/cloud/management/db.properties.rpmnew to create a new /etc/cloud/management/ db.properties:

    ```
    # cp -ap /etc/cloud/management/db.properties.rpmnew etc/cloud/management/
    db.properties
    ```

    c. Merge your changes from the backup file into the new db.properties file.

    ```
    # vi /etc/cloud/management/db.properties
    ```

13. On the management server node, run the following command. It is recommended that you use the command-line flags to provide your own encryption keys. See Password and Key Encryption in the Installation Guide.

    ```
    # cloud-setup-encryption -e <encryption_type> -m <management_server_key> -k
     <database_key>
    ```

    When used without arguments, as in the following example, the default encryption type and keys will be used:

    - (Optional) For encryption_type, use file or web to indicate the technique used to pass in the database encryption password. Default: file.

    - (Optional) For management_server_key, substitute the default key that is used to encrypt confidential parameters in the properties file. Default: password. It is highly recommended that you replace this with a more secure value

    - (Optional) For database_key, substitute the default key that is used to encrypt confidential parameters in the CloudPlatform database. Default: password. It is highly recommended that you replace this with a more secure value.

14. Repeat steps 8 - 13 on every management server node. If you provided your own encryption key in step 15, use the same key on all other management servers.

15. Start the first Management Server. Do not start any other Management Server nodes yet.

    ```
    # service cloud-management start
    ```

    Wait until the databases are upgraded. Ensure that the database upgrade is complete. You should see a message like "Complete! Done." After confirmation, start the other Management Servers one at a time by running the same command on each node.

16. Start all Usage Servers (if they were running on your previous version). Perform this on each Usage Server host.

```
# service cloud-usage start
```

17. (KVM only) Additional steps are required for each KVM host. These steps will not affect running guests in the cloud. These steps are required only for clouds using KVM as hosts and only on the KVM hosts.

> **Note**
>
> After the 2.2.13 to 3.0.x upgrade on a KVM machine, Ctrl+Alt+Del button on the console view of a VM doesn't work. Use Ctrl+Alt+Insert to log in to the console of the VM.

a. Copy the CloudStack 3.0.5 Patch A .tgz download to the host, untar it, and cd into the resulting directory.

b. Stop the running agent.

```
# service cloud-agent stop
```

c. Update the agent software.

```
# ./install.sh
```

d. Choose "U" to update the packages.

e. Start the agent.

```
# service cloud-agent start
```

18. Log in to the CloudPlatform UI as admin, and check the status of the hosts. All hosts should come to Up state (except those that you know to be offline). You may need to wait 20 or 30 minutes, depending on the number of hosts.

   Do not proceed to the next step until the hosts show in the Up state. If the hosts do not come to the Up state, contact support.

19. Run the following script to stop, then start, all Secondary Storage VMs, Console Proxy VMs, and virtual routers.

a. Run the command once on one management server. Substitute your own IP address of the MySQL instance, the MySQL user to connect as, and the password to use for that user. In addition to those parameters, provide the "-c" and "-r" arguments. For example:

```
# nohup cloud-sysvmadm -d 192.168.1.5 -u cloud -p password -c -r > sysvm.log 2>&1 &
```

   This might take up to an hour or more to run, depending on the number of accounts in the system.

b. After the script terminates, check the log to verify correct execution:

```
# tail -f sysvm.log
```

The output should be like the following:

```
Stopping and starting 1 secondary storage vm(s)...
Done stopping and starting secondary storage vm(s)
Stopping and starting 1 console proxy vm(s)...
Done stopping and starting console proxy vm(s).
Stopping and starting 4 running routing vm(s)...
Done restarting router(s).
```

20. If you would like additional confirmation that the new system VM templates were correctly applied when these system VMs were rebooted, SSH into the System VM and check the version.

    Use one of the following techniques, depending on the hypervisor.

### XenServer or KVM:

SSH in by using the link local IP address of the system VM. For example, in the command below, substitute your own path to the private key used to log in to the system VM and your own link local IP.

Run the following commands on the XenServer or KVM host on which the system VM is present:

```
# ssh -i <private-key-path> <link-local-ip> -p 3922
# cat /etc/cloudstack-release
```

The output should be like the following (not necessarily exactly identical):

```
Cloudstack Release 3.0 Mon Feb 6 15:10:04 PST 2012
```

### ESXi

SSH in using the private IP address of the system VM. For example, in the command below, substitute your own path to the private key used to log in to the system VM and your own private IP.

Run the following commands on the Management Server:

```
# ssh -i <private-key-path> <private-ip> -p 3922
# cat /etc/cloudstack-release
```

The output should be like the following:

```
Cloudstack Release 3.0 Mon Feb 6 15:10:04 PST 2012
```

21. If needed, upgrade all Citrix XenServer hypervisor hosts in your cloud to a version supported by CloudPlatform 3.0.5. The supported versions are XenServer 5.6 SP2 and 6.0.2. Instructions for upgrade can be found in the *CloudPlatform 3.0.3 - 3.0.5 Installation Guide*[7].

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[7] http://support.citrix.com/article/CTX133611

22. Apply the XenServer hotfix XS602E003 (and any other needed hotfixes) to XenServer v6.0.2 hypervisor hosts.

    a. Disconnect the XenServer cluster from CloudPlatform.

    In the left navigation bar of the CloudPlatform UI, select Infrastructure. Under Clusters, click View All. Select the XenServer cluster and click Actions - Unmanage.

    This may fail if there are hosts not in one of the states Up, Down, Disconnected, or Alert. You may need to fix that before unmanaging this cluster.

    Wait until the status of the cluster has reached Unmanaged. Use the CloudPlatform UI to check on the status. When the cluster is in the unmanaged state, there is no connection to the hosts in the cluster.

    b. To clean up the VLAN, log in to one XenServer host and run:

    ```
    /opt/xensource/bin/cloud-clean-vlan.sh
    ```

    c. Prepare the upgrade by running the following on one XenServer host:

    ```
    /opt/xensource/bin/cloud-prepare-upgrade.sh
    ```

    If you see a message like "can't eject CD", log in to the VM and umount the CD, then run this script again.

    d. Upload the hotfix to the XenServer hosts. Always start with the Xen pool master, then the slaves. Using your favorite file copy utility (e.g. WinSCP), copy the hotfixes to the host. Place them in a temporary folder such as /root or /tmp.

    On the Xen pool master, upload the hotfix with this command:

    ```
    xe patch-upload file-name=XS602E003.xsupdate
    ```

    Make a note of the output from this command, which is a UUID for the hotfix file. You'll need it in another step later.

    > 💬 **Note**
    >
    > (Optional) If you are applying other hotfixes as well, you can repeat the commands in this section with the appropriate hotfix number. For example, XS602E004.xsupdate.

    e. Manually live migrate all VMs on this host to another host. First, get a list of the VMs on this host:

    ```
    # xe vm-list
    ```

    Then use this command to migrate each VM. Replace the example host name and VM name with your own:

    ```
    # xe vm-migrate live=true host=<host-name> vm=<VM-name>
    ```

**Troubleshooting:** If you see a message like "You attempted an operation on a VM which requires PV drivers to be installed but the drivers were not detected," run /opt/xensource/bin/ make_migratable.sh b6cf79c8-02ee-050b-922f-49583d9f1a14.

f.   Apply the hotfix. First, get the UUID of this host:

```
# xe host-list
```

Then use the following command to apply the hotfix. Replace the example host UUID with the current host ID, and replace the hotfix UUID with the output from the patch-upload command you ran on this machine earlier. You can also get the hotfix UUID by running xe patch-list.

```
xe patch-apply host-uuid=<host-uuid> uuid=<hotfix-uuid>
```

g.   Copy the following files from the CloudPlatform Management Server to the host.

| Copy from here... | ...to here |
| --- | --- |
| /usr/lib64/cloud/agent/ scripts/vm/hypervisor/ xenserver/xenserver60/ NFSSR.py | /opt/xensource/sm/NFSSR.py |
| /usr/lib64/cloud/agent/ scripts/vm/hypervisor/ xenserver/setupxenserver.sh | /opt/xensource/bin/setupxenserver.sh |
| /usr/lib64/cloud/ agent/scripts/vm/ hypervisor/xenserver/ make_migratable.sh | /opt/xensource/bin/make_migratable.sh |

h.   (Only for hotfixes XS602E005 and XS602E007) You need to apply a new Cloud Support Pack.

- Download the CSP software onto the XenServer host from one of the following links:

  For hotfix XS602E005: *http://download.cloud.com/support/csp/56710/xenserver-cloud-supp.tgz*

  For hotfix XS602E007: *http://download.cloud.com/support/csp/57824/xenserver-cloud-supp.tgz*

- Extract the file:

```
# tar xf xenserver-cloud-supp.tgz
```

- Run the following script:

```
# xe-install-supplemental-pack xenserver-cloud-supp.iso
```

- If the XenServer host is part of a zone that uses basic networking, disable Open vSwitch (OVS):

```
# xe-switch-network-backend  bridge
```

i.  Reboot this XenServer host.

j.  Run the following:

```
/opt/xensource/bin/setupxenserver.sh
```

> **Note**
>
> If the message "mv: cannot stat `/etc/cron.daily/logrotate': No such file or directory"
> appears, you can safely ignore it.

k.  Run the following:

```
for pbd in `xe pbd-list currently-attached=false| grep ^uuid | awk '{print $NF}'`; do
 xe pbd-plug uuid=$pbd ;
```

l.  On each slave host in the Xen pool, repeat these steps, starting from "manually live migrate
    VMs."

## 3.3. Upgrade from 2.1.x to 3.0.5 Patch A

Direct upgrades from version 2.1.0 - 2.1.10 to 3.0.5 Patch A are not supported. You must first upgrade
to version 2.2.14. For information on how to upgrade from 2.1.x to 2.2.14, see the *CloudStack 2.2.14
Release Notes*[8].

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[8] http://support.citrix.com/article/CTX132692

# What's New in 3.0.5 Patch A

CloudPlatform 3.0.5 Patch A is a bug fix patch. There are no new features in this software package.

# Issues Fixed in 3.0.5 Patch A

To access the bugbase, see *http://bugs.cloudstack.org* and choose Issues - Search for Issues to construct a query.

| Issue Number | Description |
|---|---|
| CS-16443 | After upgrading from 2.2.14 to 3.0.5, user APIs that list objects (such as listIsos, listVolumes, etc.) return the object's UUID instead of object's original ID. |
| CS-16409 | Without any ingress or egress rules, a VM is no longer allowed access via a load balancer (public IP ) rule set on other VMs in the same VPC network. |
| CS-16406 | VMs on local storage are no longer incorrectly destroyed when removing another host using the deleteHost API. |
| CS-16394 | In a virtual private cloud (VPC), password reset now works on guest VMs created using a password-enabled template. |
| CS-16393 | VPC router VM is now properly added to the guest network so that instances are able to start properly. |
| CS-16378 | Guest VMs no longer fail creation on first try, and are properly created with egress access. |
| CS-16375 | VPC VR iptables no longer contain multiple entries of the same rule. |
| CS-16370 | After the VPC VR is stoped then starts again, the router is properly added to network. |
| CS-16319, CS-16289 | Adding an egress rule to a virtual private cloud (VPC) blocks egress to other IP addresses. |
| CS-16290 | Egress Rules Programming on VPC VR is now consistent. |
| CS-16273 | In languages DE, ES, FR, JA, KO, and SC, the correct characters appear when using localized characters in Subscriptions page. |
| CS-16272 | When restarting the Management Server under load stress conditions, the log now correctly reports whether stop and restart succeeded. |

# Known Issues in 3.0.5 Patch A

| Issue ID | Description |
|---|---|
| CS-16601, CS-15316 | Japanese keyboard is not supported. |
| CS-16067 | The command=listTags&key=city command does not work as expected. The command does not return tags for the resources of the account with the tag "city". |
| CS-16063 | The current values of volumes and snapshots are incorrect when using KVM as a host. To fix this, the database upgrade codes volumes.size and snapshots.size should be changed to show the virtual sizes. |
| CS-16058 | Null pointer Exception while deleting the host after moving the host to maintanance state. |
| CS-16045 | Only the root administrator can handle the API keys. The domain administrators are not allowed to create, delete, or retrieve API keys for the users in their domain. |
| CS-16019 | CIDR list in the Add VPN Customer Gateway dialog does not prompt the user that they can provide a comma-separated list of CIDRs. |
| CS-16015 | Deleting a network is not supported when itse network providers are disabled. |
| CS-16012 | Unable to delete a zone in the UI because the necessary cleanup cannot be completed. When the hosts are removed, the expunge process fails to delete the volumes as no hosts are present to send the commands to. Therefore, the storage pool removal fails, and the zone can't be cleaned and deleted. |
| CS-16011 | Name of network offering might be truncated due to too-narrow field width in Add Guest Network dialog box. |
| CS-15789 | Invalid global setting prevents management server restart. For example, if you configure the "project.invite.timeout" parameter to "300<space> and attempt to restart the management server, it fails without throwing a warning or setting the value to the default. |
| CS-15749 | Restarting a VPC is resulting in intermittent connection loss to the port forwarding and Static NAT rules. |
| CS-15690 | The IpAssoc command failed as a part of starting the virtual router, but the final start result is reported as succes. |
| CS-15672, CS-15635 | The FQDN of the VM is not configured if it is deployed as a part of default shared network and isolated guest network (DefaultIsolatedNetworkOfferingWithSourceNatService). |
| CS-15664 | A typo in the component.xml file that blocks Nicira NVP integration: <br><br> ```<pluggableservice name="NiciraNvpElementService" key="com.coud.network.element.NiciraNvpElementService" class="com.cloud.network.element.NiciraNvpElement"/>``` <br><br> The line should be: |

| Issue ID | Description |
|----------|-------------|
| | ```
<pluggableservice name="NiciraNvpElementService"
  key="com.cloud.network.element.NiciraNvpElementService"
  class="com.cloud.network.element.NiciraNvpElement"/>
``` |
| CS-15634 | The FQDN of a VM that is deployed as a part of both a shared network and default isolated guest network has the suffix of the shared network instead of the default isolated guest network. |
| CS-15576 | Stopping a VM on XenServer creates a backlog of API commands. For example, the Attach volume calls become delayed while waiting for the stopVirtualMachine command to be executed. |
| CS-15569 | Misleading error message in the exception when creating a Static NAT rule fails in a VPC. |
| CS-15566 | External devices such as Netscaler are not supported in VPC. |
| CS-15557 | Intermittent traffic loss in the VPN connection if Juniper is the remote router and the life time is 300 seconds. |
| CS-15361 | To enable egress rules to work with the NetScaler loadbalancer, it is necessary to set up PBR on the router that services the Netscaler. This is not a bug or limitation of CloudPlatform. It is noted here as a known issue since the observed behavior, egress rules not working, would appear to be an issue to the user. |
| CS-15218 | You might find the term "CloudStack" when you expect "CloudPlatform" in scripts, file names, etc. The use of the new product name CloudPlatform is not yet fully implemented. |
| CS-15198 | Peak bandwidth (PIR) and burst size shaping policies are not applied on Nexus 1000v virtual switch interface. |
| CS-15163 | The minimum limit is not honored when there is not enough capacity to deploy all the VMs and the ec2-run-instances command with the -n >n1 -n2> option is used to deploy multiple VMs. |
| CS-15124 | Mixed switch environment is not supported. The zone can either be deployed as Standard vSwitch based or Nexus virtual switch based. |
| CS-15118 | In a deployment with Nexus 1000v virtual switch, zone VLAN range is not validated against the reserved list of VLANs for Nexus 1000v. |
| CS-15117 | In a deployment with Nexus 1000v virtual switch, disable/enable operation of the Nexus virtual switch is not working as expected. The Nexus 1000v virtual switch continues to be used to create network or edit network operations even after disabling the switch. |
| CS-15105 | The cloud-sysvmadm script does not work if the integration.api.port parameter is set to any port other than 8096. |
| CS-15092 | Connecting to the guest VMs through SSH is extremely slow, and it results in connection timeout. |
| CS-15037 | Hairpin NAT is not supported when NetScaler is used for EIP. |
| CS-15009 | The port_profile table will not be populated with port profile information. In this release, CloudPlatform directly connects to the |

| Issue ID | Description |
|---|---|
| | VSM for all the port profile operations; therefore, no port profile information is cached. |
| CS-14939 | Adding a VMware cluster is not supported when the Management Network is migrated to the Distributed Virtual Switch environment. |
| CS-14780 | You are allowed to ping the elastic IP address of the VM even though no ingress rule is set that allows the ICMP protocol. |
| CS-14756 | Installing KVM on RHEL 6.2 will result in unreliable network performance. Workaround: blacklist vhost-net. Edit /etc/modprobe.d/blacklist-kvm.conf and include vhost-net. |
| CS-14346 | The UpdateVirtualMachine API call does not check whether the VM is stopped. Therefore, stop the VM manually before issuing this call. |
| CS-14303 (was 14537) | The IP addresses for a shared network are still being consumed even if no services are defined for that network. |
| CS-14296 (was 14530) | OVM: Network traffic labels are not supported. |
| CS-14291 (was 14523) | The EIP/ELB network offering for basic zones does not support multiple NetScalers. |
| CS-14275 (was 14506) | F5: Unable to properly remove a F5 device. |
| CS-14201 (was 14430) | VMWare: Template sizes are being reported different depending on whether the primary storage is using ISCSI or NFS. |
| CS-13758 (was 13963) | vSphere: template download from templates created off of the root volume does not work properly. |
| CS-13733 (was 13935) | vSphere: detaching an ISO from a restored VM instance fails. |
| CS-13682 (was 13883) | Multiple NetScalers are not supported in Basic Networking. |
| CS-13599 (was 13359) | Programming F5/NetScaler rules can be better optimized. |
| CS-13337 (was 13518) | Security Groups are not supported in Advanced Networking |
| CS-13173 (was 13336) | vSphere: cross cluster volume migration does not work properly. |
| CS-12714 (was 12840) | Capacity view is not available for pods or clusters. |
| CS-12624 (was 12741) | vSphere: maintenance mode will not live migrate system VM to another host. |
| CS-11514 (was 11535) | In-line mode for load balancer is not supported for all external devices. |

# API Changes from 3.0.5 to 3.0.5 Patch A

| API Commands | Description |
|---|---|
| associateIpAddress<br><br>listPublicIpAddresses<br><br>restartNetwork | The commands in this list have a single new response parameter, and no other changes.<br><br>New response parameter: associatednetworkname |
| createAutoScaleVmProfile<br><br>updateAutoScaleVmProfile | The commands in this list have the following new parameters:<br><br>New request parameter: counterparam (optional)<br><br>Removed request parameters: snmpcommunity, snmpport<br><br>Removed response parameters: snmpcommunity, snmpport |
| createPortForwardingRule | New request parameters: privateendport (optional), publicendport (optional) |
| listAutoScaleVmProfiles | Removed response parameters: snmpcommunity, snmpport |