VM installation guide

This installation guide installs NetYCE version 7.x based on a Centos 7 on your Hypervisor. The OVA can be used for VirtualBox or VMware or the VDI could be extracted to used it with other hypervisors as well.

This is by far the easiest installation method, as everything is already prepared.

Hypervisor choices

Virtualbox

The received OVA file can be imported directly.

VMware

The received OVA file can be imported directly.

KVM/Qemu

Convert the vmdk file to qcow2:

```
tar xvf NetYCE_genesis.ova
qemu-img convert -O qcow2 Genesis-disk001.vmdk Genesis-disk001.qcow2
```

Set up your own VM and link the created disk image.

Hyper-V

Convert the vmdk file to vhd:

```
tar xvf NetYCE_genesis.ova
VBoxManage clonemedium disk Genesis-disk001.vmdk Genesis-disk001.vhd --
format vhd
```

Set up your own VM and link the created disk image.

VM instantiation

At this point it is possible to assign one or multiple network interfaces. By default a single interface is provided. Depending on your setup requirements another interface might be desired to separate

If for some reason you need to log in explicitly, you may do so using either the:

Internal and external traffic.

Make sure all your desired interfaces are assigned within your hyper-visor.

- **root** account
    - password: NetYCE01
- **yce** account
    - password: NetYCE01
    - sudo command: `sudo -i`

Setting up the network

Once the VM is started it will automatically sign-in as the `root` user and the net_setup.pl script is automatically started.

In case you missed it you may execute it manually `net_setup.pl`

Unless you have changed the settings in the hypervisor, these defaults apply:

- A single interface is present and enabled with DHCP

During the questions, make sure to set up the following at least:

- Set the root password
- Set the yce user password
- Set the hostname/domain
- Set up the network interface(s)
- Set up NTP (if possbile, see caveats)
- Set up the roles for the interfaces.

If you made a mistake during these steps you can always back out (ctrl+c) and start the process again using `net_setup.pl` or `/opt/yce/system/net_setup.pl`. More information on net_setup.pl

- reboot

Setting up YCE

Log into the system (local or via ssh) using the `yce` user and the password you've set.

By default the system is reachable using HTTP.

If you wish to enable SSL, the script `mk_ssl_cert.pl` needs to be run. This script helps you to configure a 'certificate signing request' or can set up a 'self-signed certificate'.

To enable this and to make other modifications, like making NetYCE DNS resolvable, the script `yce_setup.pl` or `/opt/yce/system/yce_setup.pl` is used.

The questions will be about the application set up, which will include:

- yce server roles. Set reachability, using IP or DNS with or without SSL

Especially the DNS/IP based access is important. (It is either DNS or IP based, not both at the same time)

If this installation is a test VM it is usually easier to set it up based on IP access. If this is a production/lab installation a DNS setup will probably be desired.

The other defaults are usually good.

Access

You may now access the NetYCE application using your favorite browser using either the FQDN or the assigned IP address.

The username and password for the browser are:

- user: NetYCE
- password: NetYCE01

Q&A

Q I'm logged in the GUI but can't see the grids.
A You are trying to use the FQDN while the application is set to using the IP address or the other way around. Run `yce_setup.pl` and set DNS resolved to either yes/no, depending on your environment.

Q After logging in nothing is shown at all.
A Make sure you are allowed to access the NetYCE system using either TCP port 80/443 and port 8080. See: YCE Connection matrix

Q Where do I find the latest patches and licenses?
A Patches and licenses

Q Can't access the GUI, showing `{{ version }}`
A Make sure you've run 'net_setup.pl' as root, 'yce_setup.pl' as 'yce'-user.

1. verify all processes are running using 'go ps'
2. if mysql is not running, execute: mysql_repair.sh as 'yce'-user
3. execute 'go up' for the remaining processes
4. Make sure all necessary ports are reachable, connection matrix

```
$ go ps
UID       PID    PPID   %MEM   %CPU   START      FNAME          CMD
root      1451   1      3.25   0.01   10:05:48   yce_psmon      /opt/yce/bin/yce_psmon --daemon
yce       2863   2861   0.18   0.11   10:45:39     sshd         sshd: yce@pts/0
yce       2864   2863   0.24   0.16   10:45:39     bash         -bash
root      2180   1      0.37   0.01   10:05:49   httpd          /usr/sbin/httpd
yce       2184   2180   0.24   0.00   10:05:49     httpd        /usr/sbin/httpd
yce       2185   2180   0.24   0.00   10:05:49     httpd        /usr/sbin/httpd
yce       2186   2180   0.24   0.00   10:05:49     httpd        /usr/sbin/httpd
yce       2187   2180   0.25   0.00   10:05:49     httpd        /usr/sbin/httpd
root      2219   1      0.08   0.00   10:05:50   vsftpd         /usr/sbin/vsftpd /etc/vsftpd/vsftpd.conf
yce       2312   1      2.41   0.00   10:05:50   yce_tftpd      /opt/yce/bin/yce_tftpd
yce       2338   1      3.10   0.06   10:05:50   yce_sched      /opt/yce/bin/yce_sched
yce       2354   1      5.80   0.08   10:05:51   mojo           /opt/yce/mojo/yce.pl
yce       2355   2354   5.58   0.01   10:05:51     mojo         /opt/yce/mojo/yce.pl
yce       2356   2354   5.58   0.01   10:05:51     mojo         /opt/yce/mojo/yce.pl
yce       2357   2354   5.58   0.00   10:05:51     mojo         /opt/yce/mojo/yce.pl
yce       2358   2354   5.58   0.01   10:05:51     mojo         /opt/yce/mojo/yce.pl
yce       2359   2354   5.58   0.01   10:05:51     mojo         /opt/yce/mojo/yce.pl
yce       2360   2354   5.58   0.01   10:05:51     mojo         /opt/yce/mojo/yce.pl
yce       2384   1      2.96   0.00   10:05:52   yce_xch        /opt/yce/bin/yce_xch
root      4297   1      0.14   0.01   10:47:44   mysqld_safe    /bin/sh /usr/bin/mysqld_safe --datadir=/var/
yce       4494   4297   10.05  0.16   10:47:44     mysqld       /usr/sbin/mysqld --basedir=/usr --datadir=/
yce       5236   1      4.59   0.53   10:48:03   yce_skulker    /opt/yce/bin/yce_skulker
yce       5322   1      4.41   0.00   10:48:07   yce_nccmd      /opt/yce/bin/yce_nccmd
```

Q Could not connect to backend
A Have you ran 'yce_setup.pl' as 'yce'-user and are you connecting using the chosen method. Either ip based or name (dns) based?

1. verify all processes are running using 'go ps'
2. execute 'yce_setup.pl' to verify if `ip` or `dns`-based connections are set up.
3. Make sure all necessary ports are reachable, connection matrix

Caveats

NTP / time sync

For every setup it is important to make sure you time is in sync. This is normally not an issue, when using NetYCE as a dedicated VM with NTP installed. Though if you choose to install NetYCE on your laptop without NTP and it happens to sleep for more than 24 hours, the time gets outdated.

Solutions to address this:

- reboot the VM
- VirtualBox; install guest additions for your hypervisor:
    - Make sure to enable a cdrom hardware in your hypervisor for this VM, so the guest additions can be mounted
    - VirtualBox guest additions
- VMware; Enable 'time sync'
    - VMWare guest additions
    - Virtual Machine Settings > Options > VMWare Tools > Synchronize guest time with host

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