Advantech General FAQ

Install GUI on CentOS 7 (RHEL 7) Server

Applicable model list	All
Model name version	N/A
BIOS Version	N/A

Description:

Most of our testing environments were installed Linux server distributions (e.g. CentOS 7 Server). Most of their output were set from console port, because there's no physical VGA connector from the machines.

For some test scenarios, it will be easier to perform test/check under GUI environments. This document introduces how to install gnome on CentOS server and connect to the DUT through VNC.

Environment:

1. Platform : FWA-1010VC
2. OS : CentOS Linux release 7.5.1804 (Core) , Kernel: 3.10.0-862.11.6.el7.x86_64

Steps

1. (Optional) Run the following command to list down the available package groups for CentOS 7.

```
# yum group list
```

Output

```
Loaded plugins: fastestmirror
Repodata is over 2 weeks old. Install yum-cron? Or run: yum makecache fast
There is no installed groups file.
Maybe run: yum groups mark convert (see man yum)
Determining fastest mirrors
 * base: free.nchc.org.tw
 * epel: mirror.premi.st
 * extras: free.nchc.org.tw
 * updates: free.nchc.org.tw
Available Environment Groups:
   Minimal Install
   Compute Node
   Infrastructure Server
   File and Print Server
   Cinnamon Desktop
   MATE Desktop
```

```
     Basic Web Server
     Virtualization Host
     Server with GUI      <----------------- Check This
     GNOME Desktop        <----------------- Check This
     KDE Plasma Workspaces
     Development and Creative Workstation
  Available Groups:
     Cinnamon
     Compatibility Libraries
     Console Internet Tools
     Development Tools
     Educational Software
     Electronic Lab
     Fedora Packager
     General Purpose Desktop
     Graphical Administration Tools      <-------------- Check This
     Haskell
     Legacy UNIX Compatibility
     MATE
     Milkymist
     Scientific Support
     Security Tools
     Smart Card Support
     System Administration Tools
     System Management
     TurboGears application framework
     Xfce
  Done
```

2. Install Gnome GUI packages using the **YUM command**.

@ CentOS 7:
```
# yum groupinstall "GNOME Desktop" "Graphical Administration Tools"
```
@ RHEL 7:
```
# yum groupinstall "Server with GUI"
```

3. Enable GUI on system startup. In CentOS 7 / RHEL 7,   systemd uses "targets" instead of runlevel. The
    /etc/inittab file is no more used to change run levels. So, issue the following command to enable the GUI
    on system start.

```
# ln -sf /lib/systemd/system/runlevel5.target /etc/systemd/system/default.target
```

4. Start GUI

```
# startx
```

5. Enable VNC access due to no physical VGA output from box (FWA1010VC) ; Install tigervnc-server

```
# yum install tigervnc-server
```

6. Modify VNC config file, copy one from config template in /lib/system/system

copy a template

```
# cp /lib/systemd/system/vncserver@.service /etc/systemd/system/vncserver@:0.service
```

*Note: 1st VNC display is set to 0, its default port is 5900

modify the template

```
# vim /etc/systemd/system/vncserver@:0.service


e.g. user = root


[Service]
Type=forking


# Clean any existing files in /tmp/.X11-unix environment
ExecStartPre=/bin/sh -c '/usr/bin/vncserver -kill %i > /dev/null 2>&1 || :'
ExecStart=/usr/sbin/runuser -l root -c "/usr/bin/vncserver %i"
PIDFile=/root/.vnc/%H%i.pid
ExecStop=/bin/sh -c '/usr/bin/vncserver -kill %i > /dev/null 2>&1 || :'
```

7. Set VNC login password

```
# su root
# vncpasswd
```

8. Start VNC service

```
# systemctl daemon-reload
# systemctl start vncserver@:0.service
# systemctl enable vncserver@:0.service
```

or

```
# vncserver -geometry 1024x768 -depth 24 :0
```
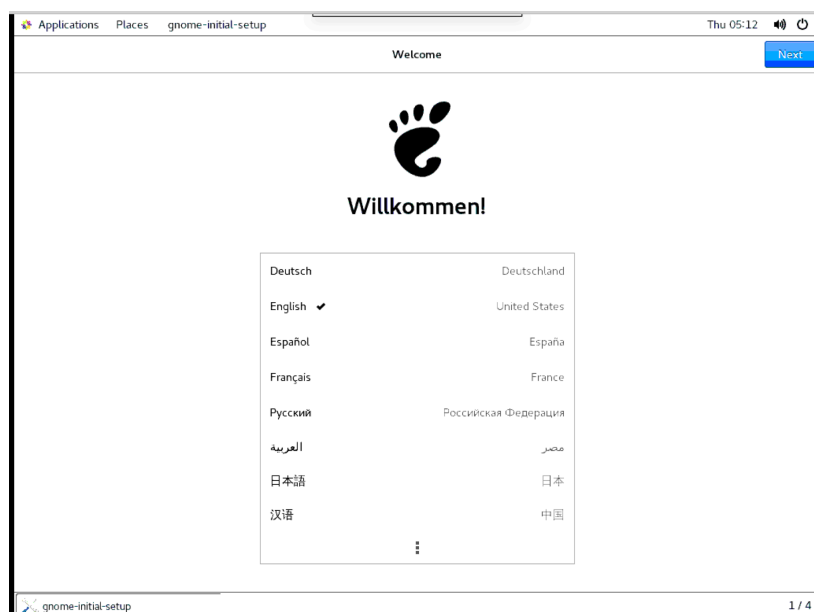
* with resolution , color depth parameter

9. Setup firewall to allow VNC access

```
# firewall-cmd --permanent --add-service="vnc-server" --zone="public"
# firewall-cmd --reload
```

10. Start VNC client to access target server, finish gnome installation as first time

11. Reboot system and relink to VNC