

CST8177 – Linux II

Fedora 14 Installation

Objectives

- To install Fedora under VMware Equipment

Equipment

- Lab Printout (these instructions)
- disk caddy
- TCP/IP access to the ICT server (<http://cstech>) at <http://cstech.ottawa.ad.algonquincollege.com> or to <http://archive.fedoraproject.org/pub/alt/spins/linux/releases/> or to <ftp://ftp.nrc.ca/pub/systems/linux/redhat/fedora/linux//releases/>
- Fedora DVD or ISO image from one of the above
- Fedora docs can be found at <http://docs.fedoraproject.org/en-US/>
- T114 or T115 Lab

Lab Outcome

- To know to install Fedora
- To know how to set up VMware

Lab Deliverables

- Fedora installed on caddy with a snapshot as backup and spare cloned copies.

Procedure

N.B.: Follow these procedures carefully. If at any time you are unsure or are having problems, consult your lab instructor or fellow students.

- If you find any errors please note them in your lab book and report them to your lab instructor.
- This lab has several sections. Each section has to be properly completed before moving on to the next section. A proper install is essential to this course's labs. Take the time to double-check each step of the process to ensure that nothing goes wrong. If something DOES go wrong, ensure that you haven't skipped any steps along the way.
- Use the check boxes and take notes in your lab book.
- This lab assumes that you have already installed a Windows host operating system, VMware, and anti-virus software. Cleaning up and defragment your drives **before** beginning will help speed up the process. Check your available space while you're looking.

What to do if you already have an older Fedora installed:

- If you have a recent Fedora install that meets the requirements in the instructions below, you may wish to use Fedora's upgrade process.
- Basically, clean up your Fedora and run the PreUpgrade program and follow its instructions.
- For details, see <http://fedoraproject.org/wiki/PreUpgrade>

Section A - VMWARE Preparation (read all of Section A before beginning)

Create a new VMWARE virtual machine

- Select Create a New Virtual Machine (also under File tab)
 - Select "Typical" and click Next
- Do **not** allow VMware (which it appears to want to do in some versions) to perform an "Easy" install - choose the custom option.
- Linux
 - Select "Other Linux 2.6 kernel"
 - Use a convenient name and verify the location of the files is acceptable.
 - The name of the virtual machine should be **Linux_2a** (your clones of this can be **Linux_2b** and so on), where **Linux_2** is code for CST8177.
- Select NAT for your network as required for this course. Note: some installs appear to need Bridged. If NAT doesn't work for you, try the other.
- Select at least a 10 GB (or more) virtual drive for Fedora, plus 1 GB for an additional **swap** drive.
- Allocate the space NOW! It only takes a few minutes to pre-allocate. Otherwise you will experience slow performance as you use your virtual machine due to the excessive overhead.
- Edit your new VMware client.
 - Remove the sound adapter
 - Remove the floppy device
 - Set the memory (RAM) to 512 GB (or no more than 1024 GB!)
- Verify your VMware client before you begin an install. All the choices should be reasonable and be similar to your lab buddy. **If you don't have a lab partner, now is a great time to get one or two.**

Section B - Linux Installation (read all of Section B before beginning)

"Do I have to use Fedora? I prefer distro XXXX". You can use any Linux distro. However, distro XXXX may not behave the same as Fedora. You decide.

Installation Method Selection

To install Fedora there are a number of options, three of which are listed here. Choose which one of the three you will use:

1. **ISO-based Installation** (the most common approach; burn a DVD if you wish)
 - Download the DVD from the ICTech Support Site (or another site. If you are installing under VMware, point your CDROM drive to the downloaded ISO file. Boot the virtual machine and proceed with the installation.
2. **DVD-based Installation** (your second choice)
 - If it is the correct version, use the DVD that comes with your book; or burn the ISO image from **<http://cstech..>** Boot the virtual machine with the DVD in the DVD drive and proceed with the installation.
3. **HTTP-based Installation** (don't; just don't)
 - Download the Fedora Rescue CD. If you are installing under VMware, point your CDROM drive to the downloaded ISO file.
 - Boot the virtual machine. Enter "**linux askmethod**" at the boot prompt. Choose HTTP as your installation method. Select DHCP to setup your network. Select a mirror site (such as: **download.fedora.redhat.com**) and the path that contains the OS installation files (typically something like: **mirror/fedora/core/12/i386/os/**) and proceed with the installation.

Installation Procedure

- To setup partitions select "**Create custom layout**". Determine the best partition setup and document it. *Note*: Do not use less than 10 GB for the root/home partition.
- Set your hostname to **abcd9999.example.net**, where **abcd9999** is your Algonquin network ID. Yes, I really do mean **example.net**. It's allowed.
- For package selection select the option "**Customize now**". Look through all package groups and:
 - Add GUI support with X Desktop and Gnome or KDE Desktop.
 - Add software packages that relate to basic system administration (graphical browser, text editor, terminal editor, system tools, etc)
 - Add Development tools and libraries.
 - Remove unnecessary software, such as Games (unnecessary for the course)
 - Remove all servers except for Printing Support and Server Configuration Tools.
- After the installation is complete, remove the DVD or detach the ISO image from the virtual CDROM drive and reboot. *Note*: The shutdown sometimes freezes in VMware. The host reports that all CPU is going to VMware. If you are patient, it will probably complete. Hitting the "virtual reset" button seems to have no serious effect.

Post-Installation Settings

- The first boot and login is slower than you might expect; this is normal.
- In the post-boot configuration you need to do a couple of things:
 - Select **Firewall Disabled**.
 - Select **SELINUX Setting Disabled**. This installation option causes students the most grief in lab.
 - Select a generic CRT monitor type with the same resolution and colour depth as your host. Go easy on the requirements: 800x600 and 16 bit colour (thousands of colours) is good enough.
 - Set the root password to **cst8177**.
 - Add a regular user named **user8177**. Set the password to **user8177**.
- Reboot and login as **root** The login should fail. Normal practice is to log in as your user and use **su**.
- Add yourself to the sudoers file **/etc/sudoers** by:
 - **cd /etc**
 - **cp sudoers sudoers.bak**
 - **vi sudoers**
 - find the line: **root ALL=(ALL) ALL**
 - add this line: **user8177 ALL=(ALL) ALL**
immediately below it.
 - **:w!**
 - **:q**
 - You must use **:w!** and **:q** only because sudoers is a read-only file.
- VMware has a feature called "snapshots" which can turn a bad situation into a good one. VMware allows multiple snapshots, which you can comment. This gives you great flexibility and makes recovering easier. Take a snapshot now!
- Having a cloned backup of your initial install is also a **very** good idea. First check that you have enough disk space, then see VMware's cloning option.

Section C - Linux Post-Installation Tasks

- Add a terminal icon to your panel and perhaps also your Desktop.
 - Right click on the panel
 - Select Add to Panel
 - Select Application Launcher - Accessories Terminal - Add
- Install the printer using the GUI printer configuration utility for CUPS. Name the printer T114 or T115 to match your lab. When prompted for the server name, use the lab printer's IP address (see the front of the printer). You can also use CUPS from a browser using the URL **http://localhost:631/**