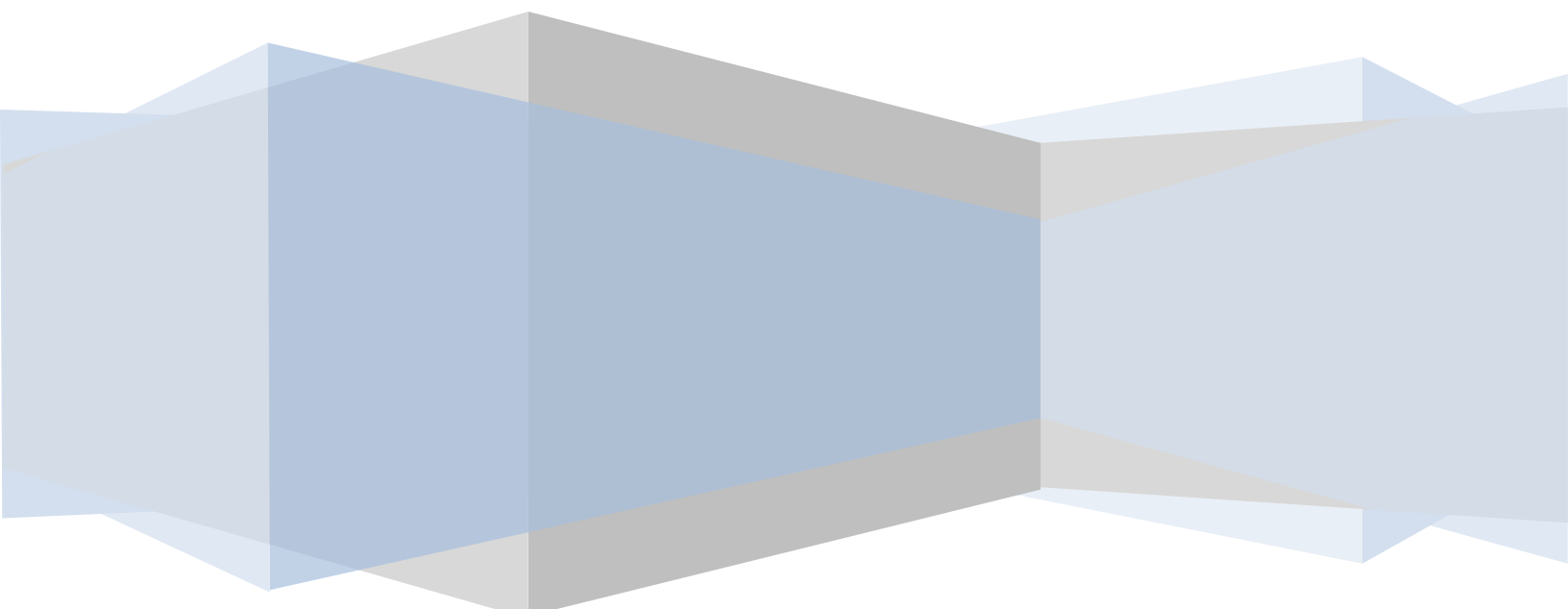


Fedora



Essentials

Fedora 12 Essentials



Fedora 12 Essentials – First Edition

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Chapter 1. About Fedora 12 Essentials

Fedora (which, up until release 7, was known as Fedora Core) is the ideal choice for those looking for a Linux distribution that always contains the latest and greatest open source technology.

The Fedora distribution is always sure to contain the newest graphics effects combined with early access to the enterprise class tools that are being developed as the foundation of the next release of Red Hat Enterprise Linux. For these reasons, Fedora is one of the most exciting of all the currently available Linux distributions.

Fedora 12 Essentials is a book designed to provide detailed information on the use and administration of version 12 of the Fedora distribution. For beginners, the book covers the basics of configuring the desktop environment, resolving screen resolution issues and configuring the email client to send and receive email messages via web based services such as GMail. Installation topics such as dual booting with Microsoft Windows and configuring wireless networking are covered together with all important security topics such as configuring a firewall.

For the experienced user, topics such as configuring email and web servers, Xen and KVM virtualization, Secure Shell (SSH), remote desktop access and file sharing are covered in detail to provide a thorough overview of this popular, cutting edge operating system.

Chapter 2. Installing Fedora 12 on a Windows System (Dual booting)

Fedora, just like most Linux distributions, will happily co-exist on a hard disk drive with just about any version of Windows up to and including Windows 7. This is a concept known as *dual-booting*. Essentially, when you power up your PC you will be presented with a menu providing the option to boot either Fedora or Windows. Obviously you can only run one operating system at a time, but it is worth noting that the files on the Windows partition of your disk drive will be available to you from Fedora regardless of whether your Windows partition was formatted using NTFS, FAT16 or FAT32.

This installation method involves shrinking the size of the existing Windows partition to accommodate the installation of Fedora. Recent Fedora releases have provided the option to automatically shrink existing disk partitions during the installation process. It is also possible to pre-shrink an existing partition before starting the installation process. In this chapter both approaches will be covered in detail.

2.1 Downloading the Fedora Live CD

The first step in the installation process is to obtain the Fedora installation media in a format suitable for installing on a hard disk which already contains a Windows installation. The easiest way to achieve this is to boot the Fedora Live CD and perform the configuration and installation from the live session. Live CD support was introduced in Fedora beginning with the release of Fedora 7. The latest Fedora Live CD images can be downloaded from the Fedora project web site:

<http://fedoraproject.org/get-fedora>

The download image is approximately 650Mb in size so a broadband internet connection is recommended and sufficient disk space on the target system required.

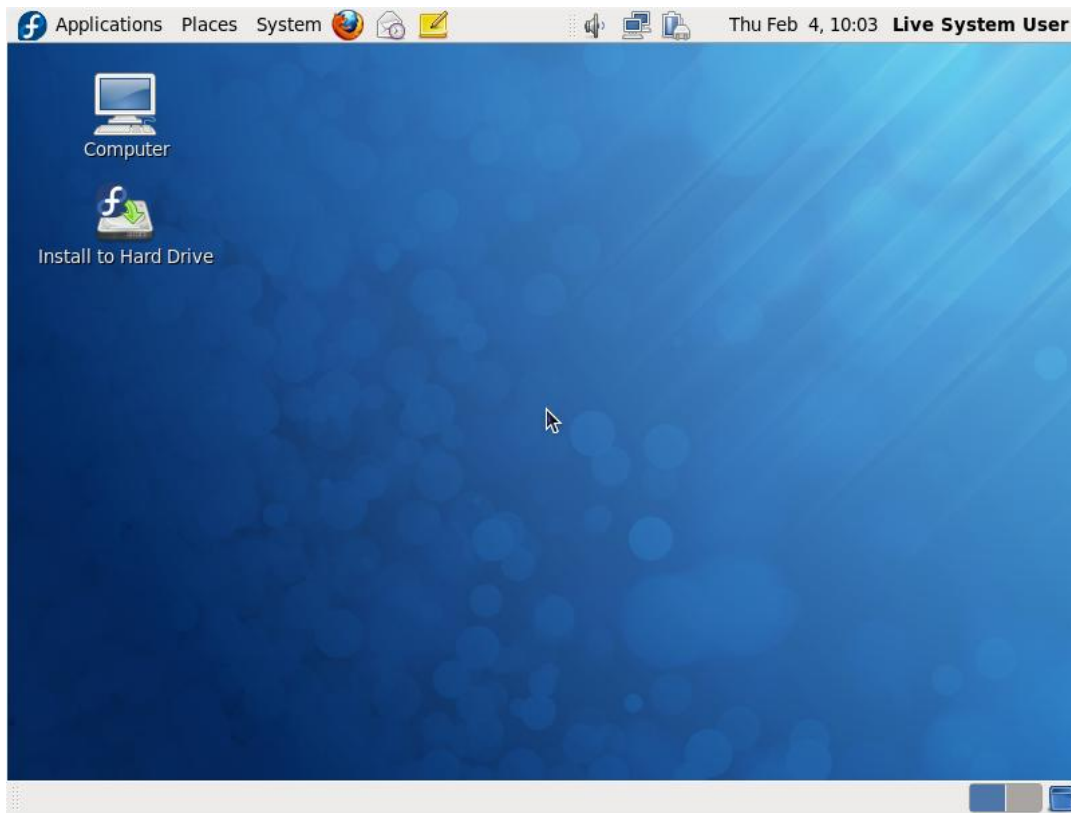
The Live CD images are listed under *Fedora Desktop Edition Installable Live CD*. The default download is for 32-bit systems. To access images for 64-bit systems click on the *Show me all download options in one page* option located to the right of web page. On the resulting page, the 64-bit live CD images are located under the *Fedora Desktop Live Media* section labeled as *x86_64*. If you are unsure of the architecture of your computer hardware, check with the manufacturer for clarification. If you are still unsure, or wish to get started quickly it is worth knowing that the 32-bit version of Fedora will also run on 64-bit systems, though the same cannot be said of running the 64-bit version on a 32-bit computer.

There are two predominant desktop environments on Linux, namely KDE and GNOME. Given that the default desktop environment on Fedora is the GNOME desktop this will be the desktop covered in the remainder of this book. Once you have downloaded the appropriate image for your hardware and choice of desktop, burn the image onto a CDROM. Check the documentation for your preferred CD writing software for steps on how to write an ISO image file to a CD if you do not already know how to do this.

2.2 Beginning the Dual Boot Installation Process

Place the Fedora Live CD into the CD drive of your Windows system and reboot. If the system loads Windows again you will need to change the boot order in your system BIOS. To do this reboot again. Early in the boot process the BIOS will display a message indicating which key should be pressed to enter Setup. Press the key indicated so that the BIOS Setup menu appears. Navigate the menu system until you find the setting which indicates the boot order used by the BIOS. Change the order so that the drive containing the Fedora Live CDROM is listed before the hard disk drive, then exit and save the settings. Reboot once more and you should find that Fedora loads from the CDROM.

Once Fedora has loaded you will be presented with the Fedora login screen with the option to perform an automatic login pre-selected. If you take no action, Fedora will log you in after 60 seconds. If you prefer not to wait, click on the *Login* button to initiate the login sequence. Either way, Fedora will present you with the desktop screen similar to the one illustrated in the following figure:



To initiate the installation process, double click on the *Install to Hard Drive* icon located on the Fedora desktop. Once the installer has launched, make appropriate selections for keyboard layout, machine name, time zone and root password (the password that will be used when performing privileged administrative tasks on the system after installation). Once these settings have been configured, the drive partitioning screen will appear. At this point, the partition used by the incumbent Windows installation is ready to be resized to accommodate Fedora.

2.3 Resizing the Windows Partition

The installer screen responsible for configuring the basic partition layout of the target hard disk drive appears as illustrated in the following figure:

Installation requires partitioning of your hard drive. The default layout is suitable for most users. Select what space to use and which drives to use as the install target. You can also choose to create your own custom layout.

Replace existing Linux system

Encrypt system

Select the drive(s) to use for this installation.

sda 10237 MB ATA VBOX HARDDISK

Advanced storage configuration

What drive would you like to boot this installation from?

sda 10237 MB ATA VBOX HARDDISK

Review and modify partitioning layout

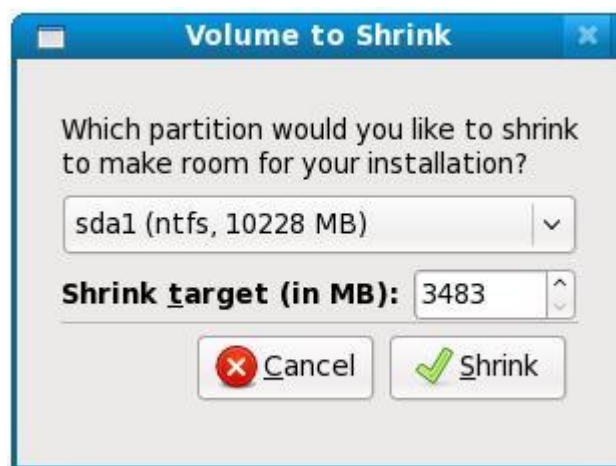
A number of options are provided for allocating space for the installation of Fedora:

- **Use entire drive** - The entire disk drive will be assigned to the Fedora operating system installation. Any pre-existing partitions, together with any existing operating systems and associated data files contained therein will be deleted to make room for Fedora. This option should only be used if you are absolutely sure you no longer need anything that is currently stored on that disk, or have already backed up all user files.
- **Replace existing Linux System** - If the drive was previously configured to support a Windows/Linux dual boot environment or was devoted entirely to another Linux installation, this option may be selected to instruct the installer to delete the pre-existing Linux partition and replace it with Fedora. Once again, it is important to backup any user data that may still be needed.
- **Shrink current system** - Allows an existing partition to be reduced in size to make room on the drive for the Fedora installation. More details on this option are provided later in this chapter.
- **Use free space** - If the current partitions on the drive do not take up the entire disk space available, any unallocated space may be assigned to the Fedora installation using this option.

- **Create custom layout** - When selected, this option displays the disk partitioning tool allowing each partition on the disk to be manually configured. Unless you have experience with low level disk partitioning this option is not recommended.

2.4 Shrinking the Existing Windows Partition

To create a dual boot environment, the existing Windows partition will need to be reduced in size to make room for Fedora to be installed on the hard disk drive. To achieve this, begin by selecting the *Shrink current system* option followed by the *Next* button. The installer will subsequently display the *Volume to Shrink* dialog as illustrated in the following figure:



Within this dialog, select the partition to shrink from the drop down menu, followed by the target size of the partition that is to be reduced. Note that to allow sufficient room for the Fedora installation, a minimum of 5GB is recommended (equivalent to 5120MB). Once the partition and reduction amount have been entered, click on the *Shrink* button to initiate the partition modification. The installer will display a dialog seeking confirmation that you wish to proceed. Clicking the *Write changes to disk* button will commit the change. Once the resize process has completed, select the *Use free space* option and click *Next* to continue with the installation process.

The installer will format the unallocated space ready for the installation of Fedora and begin copying files to the partition.

Once the installation completes, shutdown the Live CD Fedora session using the *System->Shutdown* menu option and eject the Fedora Live CD from the drive. Restart the system and note that a countdown message appears. Press any key at this point to enter the boot menu which will appear as follows:



This menu provides the option of booting either "Fedora" or "Other". In this instance, selecting "Other" will boot your original Windows installation. In a later section we will cover the steps to modify this menu to change the boot default and rename the "Other" menu option to something more descriptive. Before we do that, however, we first need to finish the last phases of the installation and setup process.

2.5 Final Configuration Steps

In order to complete the installation process, select the boot menu option to start the Fedora operating system. After the system has started, the Fedora Setup Agent will appear with a welcome message. Using the *Forward* button, read the license information, create a user account for yourself and verify the date and time. If you would like the date and time of your Fedora system to be synchronized with an external Network Time Protocol server, select the *Synchronize date and time over network* option before proceeding to the *Hardware Profile* screen. If you feel like helping out the Fedora Project team with future development priorities, select the option to send a copy of your hardware profile, keeping in mind that if you choose to do so your system will send additional profiles once a month. Click *Finish* to exit the setup agent and log in using your newly created account credentials.

2.6 Editing the Fedora Boot Menu

Once you have logged into the system and the desktop is visible the next step is to configure the boot menu so that it lists the alternate operating system as *Windows* instead of *Other*. The boot menu configuration settings are stored in the `/boot/grub/menu.lst` file. This file may be edited in a terminal window (*Applications->System Tools->Terminal*) as follows:

```
su -
gedit /boot/grub/menu.lst
```

When prompted by the `su` command to enter a password be sure to enter the root password created during the installation process, not the password you created for your user account during the setup agent configuration steps.

The contents of a typical `menu.lst` file is listed below:

```
# grub.conf generated by anaconda
#
# Note that you do not have to rerun grub after making changes to this file
# NOTICE:  You have a /boot partition.  This means that
#           all kernel and initrd paths are relative to /boot/, eg.
#           root (hd0,1)
#           kernel /vmlinuz-version ro root=/dev/mapper/vg_fedora12-lv_root
#           initrd /initrd-[generic-]version.img
#boot=/dev/sda
default=0
timeout=5
splashimage=(hd0,1)/grub/splash.xpm.gz
hiddenmenu
title Fedora (2.6.31.5-127.fc12.i686)
    root (hd0,1)
    kernel /vmlinuz-2.6.31.5-127.fc12.i686 ro
root=/dev/mapper/vg_fedora12-lv_root noiswmd LANG=en_US.UTF-8
SYSEFONT=latacyrheb-sun16 KEYBOARDTYPE=pc KEYTABLE=us rhgb quiet
    initrd /initramfs-2.6.31.5-127.fc12.i686.img
```