3.19 A study on Linux Live CD re-mastering

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ABSTRACT

Linux is a Unix-like operating system initially created by Linus Torvalds in 1991. This Operating System basically consisted of the kernel and some GNU tools. Thereafter Linux was developed progressively with the help of the people around the world. The most interesting thing is Linux provides 100% freedom to run, copy, distribute, study, change and improve because it is *free and open source*. As a consequence, some individuals and companies began distributing Linux with their own choice of packages bound around Linus' kernel aiming some user communities. *Redhat Enterprise Linux, Debian, Suse, Ubuntu, Fedora, CentOS and Knoppix* are some major distributions.

In the users domain, Live CDs are very important because it is capable of trying out a distribution without installing and allows running the distribution on any computer without making any harm to the existing system. Along with the portability, it has a great demand over installation CDs. Moreover, Live CDs can be used to determine whether an operating system or version is compatible with specific hardware settings and certain peripherals, to know which computer or peripheral will function properly before purchasing it. People can also use a Live CD to troubleshoot hardware while many Live CDs can save user created files in a Windows partition, a USB drive, a network drive, or other accessible media.

Even the Live CD s are already packed up with some software and capable of fulfilling the user requirements to some extent, the problem is, a preferred Live CD may not provide an environment that is perfectly suited for a specific user since Live CDs are dedicated to specific applications according to the requirements of thematic user communities. Therefore, it comes with the software that valuable to a specific user as well as some software that do not need at all. Further, some software that is essential for a specific user may not be included. On the other hand, although some Live CDs provide the facility of installing the operating system in to the computer, still it is impossible to install software that are not included with the Live CD without an Internet connection, because it needs to download the relevant dependencies which supports the software.

The solution to the above mentioned problems of Live CDs is to create customized Live CDs according to the user requirements in order to acquire higher utility. Moreover, it is possible to upgrade a Live CD by including security patches and software updates etc. The main purpose of this study is to explain how to customize a Live CD by adding necessary software packages, plug-ins, removing some unwanted packages and changing the appearance while upgrading. First, we have obtained an image of the original Live CD. Then, we re-mastered the core of the Live CD by using built-in UNIX commands and some standard Linux tools. After recreating the ISO image, it was burned to a CD/DVD. Finally, the customized Live CD was successfully compatible with particular users' requirements. To demonstrate the procedure we have selected *Ubuntu* one of the famous Linux distributions in the world.