**Multiple-OS Options for Desktop and Laptop PCs**

Most PCs come with a single operating system (OS) installed. However, it is not necessary to obtain a second PC if you need to use two (or more) different OS. This document explains the options and offers pointers to how to proceed.

# What are your options?

There are two ways to have multiple OS on your desktop PC or laptop.

## Dual Boot

In this case, both OS are installed on your machine's internal disk. One of the two is selected when you boot the machine. Advantages of this configuration are:

* Both OS can access special hardware installed in your PC (e.g., high-end GPUs or interface cards to external devices).
* Both OS will run optimally.

Disadvantages are:

* You can use only one OS at a time.
* If one OS is already installed and is using your PC’s entire disk, installing a second OS is not at all simple, may put your data at risk and may even be impossible.
* Dual-booting can be difficult to set up. (However, both Red and Yellow Field Support Teams are familiar with the required processes and can help.)

## Virtualisation

In this case, choose your primary OS (the one that you use most) and install the secondary OS as a “guest”. The secondary, virtualised, OS is accessible via a window within your primary OS. Advantages of this configuration are:

* You can use both OS at the same time.
* You can take snapshots of the virtualised OS, so that you can make changes and if necessary roll them back, or copy the snapshot to another PC.
* The resources consumed by the virtualised OS (memory/RAM and CPU cores) can be changed on-the-fly.
* It is easy to have multiple OS virtualised on one PC (e.g., both Ubuntu Linux and RedHat Linux on a MS Windows machine, or both Linux and MS Windows on a Mac).

Disadvantages are:

* The virtualized OS will not be able to make use of special hardware installed in your PC (e.g., high-end GPUs or interface cards to external devices).
* The virtualized OS will run more slowly.

## MS Windows v10 Linux Sub-System

Microsoft Windows v10 includes a Linux subsystem which offers some of the functionality of a full Linux OS and may be sufficient depending on your needs. IT Services are developing a Windows v10 image for standard laptops and full Windows v10 support is on the roadmap (though no date is fixed as yet).

# Common and Supported Options

All of these options are supported by IT Services including installation of single-boot and dual-boot OS, virtualisation software, trouble-shooting, and installation of application software on all such configurations.

## Dual-boot MS Windows and Linux

Install both MS Windows and Linux on your PCs internal disk and choose one or the other from a Linux-provided menu at boot-time. Notes:

* It is highly-recommended that MS Windows is installed first and Linux second.

## Virtualize Linux within MS Windows or Vice Versa

Install MS Windows as your primary OS and virtualize Linux, or install Linux as your primary OS and virtualise MS Windows. This is commonly done by using Virtualbox ([http://www.virtualbox.org](http://www.virtualbox.org/)), which is free software. Improved virtualization support can be obtained by using VMware Workstation at a current cost of £114 per academic licence. Notes:

* The Microsoft Campus Licence Agreement allows only one MS Windows VM to be running at a time on a PC.
* The Microsoft Campus Licence Agreement allows for MS Windows to be installed on any and all University owned PCs at no cost.

## Virtualize either MS Windows, or Linux, or both, within OS-X on a Mac.

Notes:

* The Apple End User Licence Agreement does not allow OS-X to be installed on non-Apple hardware. Hence the only option if you wish to run OS-X is to purchase a Mac.

# Dual-Booting Advice!

When installing a second OS take great care! There are significant pitfalls: if a wrong step is taken, everything currently located on your PC's internal disk — the existing OS installation and all documents and other files — can be permanently lost. You should contact IT Services if considering dual-booting you PC, or use virtualization instead.

# How can I get help with this?

To obtain help with any of the above, please log a request with the IT Services Support Centre. This will be passed to the appropriate (local) Field Support team.