<u>Engineering Journal</u>

What is the purpose of an OS?
A: An operating system is the framework that allows you to communicate with computer hardware, interact with the computer and controls all functions of the computer.

What role do the shell and kernel play?
A: The Kernel communicates directly with the hardware and shell allows the user to interact with the software and the Kernel it's self by way of the UI.

What is the difference between a CLI and GUI interface?
A: CLI stands for "command-line-interface" and is text based, while GUI stands for "graphical-user-interface" and has graphics to allow the user to navigate the system.

What is a network redirector?
A: Is a system driver that sends data to and receives data from a remote device.

What are some common operating systems available?
A: Microsoft's Windows (XP, Vista and 7), Linux (Debian, Fedora, Arch and of course Ubuntu) and Apple (Mac OS).

What is the difference between commercial and GPL software licensing?

A: *Commercial software licensing* is software that has been developed by a company to make money off it's use. Most Commercial software is proprietary, but some is *freeware* and some is *FOSS(free and open source software)* software. There's a difference between *"Commercial" and "proprietary"* software. Proprietary software is closed sourced software that often costs money to buy and use, though there are *freeware software* that is proprietary and there is some Commercial software that is *FOSS* software. Then there are commercial software vendors that sell open source software. *Red Hat Linux* sells it's enterprise software, but the source code is freely available. This software is considered *FOSS* software though it costs money to buy.

Now GPL software licensing is different than Proprietary, freeware, shareware and other forms of open source software. GPL stands for "General-Purpose-Licensing" and with this license you the user have full control over the software you get. You have the rights to modify the software for your own needs, you have the rights to have someone else modify the software for your own needs and you have the right to distribute the original version of the software to others. Essentially once you get your own copy of GPL covered software it's yours to do what you like with it, within the rights of the GPL licensing. Those rights can be found here: http://www.gnu.org/copyleft/gpl.html

What are the different options for OS installation?
A: #1: Download a DVD/CD ISO image of the OS and burn it to a Disk and install it from the drive.
#2: Buy a copy of the DVD/CD ISO image and install it from the drive.
#3: Download and install the OS from within your Network or from outside.

What is an OS upgrade and how is it performed?
A: OS upgrade is a newer version of your current OS and it can be performed, as a rolling release (done over time and usually in small bits), in place (release done all at once from disk or over a network) or done from a clean install. When done from as a clean install your older version is usually copied over or saved as a file directory in your new install.

What is a file systems and what types are used with PCs?
A: A file system is a way to organize, maintain and find and retrieve files and data in our Operating System; and there are many types of file system's that we use on our computers. Below is a list of types of file systems.
FAT (FAT12, FAT16, FAT32, exFAT), NTFS, HFS and HFS+, HPFS, UFS, ext2, ext3, ext4, btrfs, ISO 9660, Files-11, VMFS, ZFS, ReiserFS and UDF.
There are also journaling file systems or versioning file systems as well.

What IP parameters must be configured to prepare a computer to participate on the network?
A: IP address, subnet Mask and default gateway.

How are operating systems maintained?
A: Though updates and patches that are sent from the OS developers.