NEWSLETTER

Operating System Options and Installation Methods

An OS is installed on the computer's hard disk, inside an area called hard disk partition. There are several ways for installing a new operating system. The installation method is based on the system hardware and end-user requirements. Generally, you have four basic options for the installation of a new operating system:

Clean Installation
We can perform a clean installation on a new computer or in those cases where there is no upgrade path between the current operating system and the new one. This type of installation deletes all data on the hard disks partition where the current operating system is installed. A new PC requires, of course a clean installation. You can also do a clean install when the current operating system installation has corrupted files or does not work properly.

Upgrade Installation
Sometimes, it is also possible to perform an upgrade. When you perform an upgrade, OS configuration settings, installed programs and data are preserved. With this installation you have nothing to worry about, because you will not lose any personal data. You will just replace the old operating system files with the new, upgraded files. However, keep in mind that after the upgrade the applications and drivers that are incompatible with the new OS will not work as expected.

Multi-boot Installation
Another option is to install multiple operating systems on a single computer. You can install each OS inside a different disk partition and this way every OS will have its own files and configuration settings. On multi-boot installations, the users see a menu when they open their computers and they have to select the desired OS. Of course, only one operating system can run at a time.

Virtualization
This is relative new technique that is often used on servers. With virtualization we can run numerous copies of an operating system on a single set of hardware and create this way several virtual machines. Every single virtual machine works like a separate computer. This technology makes a single physical hardware resource to appear like multiple logical resources.
Before starting any operating system installation you have to make sure that all the hardware is certified to work with the new operating system. Also confirm that the hardware resources meet the minimum installation requirements. Moreover, when you perform an upgrade it is a very good practice to perform a virus scan before

starting the installation and a complete full backup of all your personal data.
One method that helps you protect your data is this: Create multiple partitions on the hard disk and install a different OS on each partition. Then copy all your data inside an empty partition that does not contain an OS. This way you can upgrade the operating system without the risk of losing any data. Backup and recovery of data files is also easier with this design.
It is also important to decide the type of file system to use. The file system controls how the OS stores and tracks the files. There are several different file systems available. The most well-known are: FAT 32, NTFS, HPFS, ext2 and ext3. Every operating system is designed to use one or more of these file systems. There are advantages and disadvantages on every file system. Careful consideration should be made to the type of file systems supported by the selected OS and the benefits of each.
You can find several programs to modify the partitioning structure and file system of a hard drive after installation, but it is better to avoid them if possible. When modifying either the file system or partition structure on a hard drive, data loss may result. Careful planning can help preserve the integrity of the data.

Microsoft Windows 8 Promises a Platform for Full-Screen Apps

As the beta release date of Microsoft Windows 8 is approaching near, discussions and speculations about what the latest operating system has to offer are rising high. Other than the regular yet improved features, the cult operating system from Microsoft now offers a great platform for full-screen apps. Users can now touch their applications, customize them, and view them in a full-screen mode without interruptions or menus hanging on the top of the screen.

So whether you want to create a word document or PowerPoint slide, browse the internet, watch movies and videos, check weather information, or read RSS feeds, you simply need to slide your finger over the tile to open it. Open the full-screen view and experience a truly beautiful, rich app feel. Yes, even your word document will appear in a full screen mode to give you the feel of a white blank paper on which you can scribble your story.Or else, take a walk down the memory lane when seeing friends' or family photos in full screen mode or roll on the floor laughing when watching your favorite animated movie. Nothing can dare to interrupt your pleasure, no menu, no tabs to give you the feeling of a computer. What's more, when you need to access another application, just slide your finger to the right hand side or up at top of the screen to bring up five Charms viz. Search, Share, Start menu (or the Home screen), and more. You can even open and view 2 or more apps in parallel.
Internet Explorer (IE) 10, the web browser, is here to take your browsing experience to another level. Get faster, richer, and never before fluid-touch web experience when browsing the internet in IE 10. The chrome-free

browser screen offers a full screen view of the websites. If you want to customize the settings or go to another website, slide your finger down from the top of the screen to unhide the address bar and other tabs. This way you get more space and a neat website experience. You can even pin your preferred websites to Windows Start, the startup screen to access them with just a single tap.

Wait it's not over yet. Windows 8 has a lot in store for developers too. They can now create rich, beautiful Metro style full-screen apps for their customers. Besides, the built-in Windows Store will enable them to preview and use apps before buying them and download from a comprehensive suite of services and tools. Same goes for the customers too.Windows 8 integrates DirectX, which is a set of APIs (application programming interfaces) for creating different apps, especially rich, Metro-style games. Thus developers can now write chrome-free, rich, full-screen view games using JavaScript, CSS3, and HTML5. They can even create immersive 3D and 2D game apps using XAML powered by Visual Basic or C#. There are HLSL and C++ languages also powered by DirectX 11.1 to exploit the full graphics capabilities of contemporary graphics devices.It doesn't end here as the list of features continues. There is much more to say about Windows 8, which is still under Microsoft's veil. Let's wait for the beta version to be unveiled and we'll have bountiful information to review and share the features.

Understanding How Data Packets Travel Across the Network

When troubleshooting IP networks over Ethernet it helps to understand how packets travel across the network. Packets use two different mechanisms to get from point A to Point B, or from the source to the destination. IP addresses and MAC addresses.

The MAC address is the layer 2 address that represents the specific hardware that is connected to the wire. The IP address is the layer 3 address that represents the logical identity of the device on the network.

MAC Address

Most every computer today has some sort of network interface card (NIC) either built-in or installed on the computer. Every NIC is created with a hardware number permanently "burned" into it. This permanent hardware number is known as the MAC (Media Access Control). MAC addresses are 48 bits in length and are usually displayed as a 12 digit hexadecimal number.

MM:MM:MM:HH:HH:HH

The first 24 bits (or 6 digits) represent the manufacturer of the NIC. The last 24 bits (6 digits) are a unique identifier that represents the Host or the card itself. No two MAC identifiers are alike.

IP Address

The IP address is the logical address that is associated with the MAC for a particular device. IP addresses (IPv4) are a 32 bit (12 digit) number representing 4 binary octets.

Both an IP and a MAC are needed for data to travel across an Ethernet network.

The ARP Protocol

When a computer sends data over the network, it first needs to find which route it must take. Will the packet stay on the network or does it need to leave the network. The computer first determines this by comparing the subnet mask to the destination ip address.

Once this destination is known, Address Resolution Protocol (ARP) is used to find the next hop on the network. ARP's job is to basically discover and associate IP addresses to the physical MAC.

For a packet that has a destination on another network, ARP is used to find the MAC of the gateway router. An ARP packet is sent to the gateway router asking for it's MAC. The router reply's back to the computer with it's mac address. The computer will then forward the packet directly to the mac address of the gateway router.

When the gateway router receives the packet it will remove it's mac address as the destination and replace it with the mac address of the next hop router. It will also replace the source computer's mac address with it's own mac address. This happens at each route along the way until the packet reaches it's destination.

Going Postal - An Example

Let's use the postal service to help explain this. Think of this process like taking a letter and stuffing it in an envelope. Then take that envelope and stuff it in another envelope addressed to the local post office. The post office then takes out the inner envelope, to determine the next stop on the way, puts it in another envelope with the new destination.

Best Ways To Protect Your Data Online And Offline

The online world grows stronger and stronger with each passing year. Keeping your data safe both online and offline requires vigilance. Just as there are always improvements being made to enhance the way people do business online, there are people knowledgeable enough to abuse that technology for purposes of identity theft and other forms of cyber terrorism. If you really want to make the online experience the best that it can be now and in the long term, then you need to consider the following best ways to protect data, both online and off.

1) Encryption technologies

Your hosting provider and software that you use to build and develop your website should work in agreement with one another to stay on top of the latest in encryption technologies. You don't want your users to suffer as a result, so make sure that it doesn't affect usability, but at the same time be vigilant about what you have in place to protect you from harm.

2) Content control

Certain documents and writings should not be released to the public, so make sure that you have set content control standards in place that limit access to only the things you wish for the public to see. As far as other content is concerned, make sure that you trust the people, who are representing you, and keep vital things close to the vest at all times.

3) Personal information

Never ever ever share personal information across non-secure locations. Social security numbers, passwords, and other pertinent financial information should be off limits. You may even wish to partner with an outside firm that specializes in protecting personal data, just to ensure some kind of security with regards to your insurance.

4) Accessibility

Passwords remain one of the strongest things that you can have in the fight against online crooks. But you've got to be smart about how you use them to be effective. It is recommended that you use a different password for all of your important emails and accounts, and that you store these passwords in a notebook instead of the desktop on your computer. Cyber thieves are way too advanced in how they are able to break on to computers and make them available for their own personal use. You may even be sharing your hard drive with a thief and not know it. So if it has any direct or indirect tie to your reputation or finances, then you should probably forgo sharing it or storing it on modern technological devices.