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Virtualization… in plain English

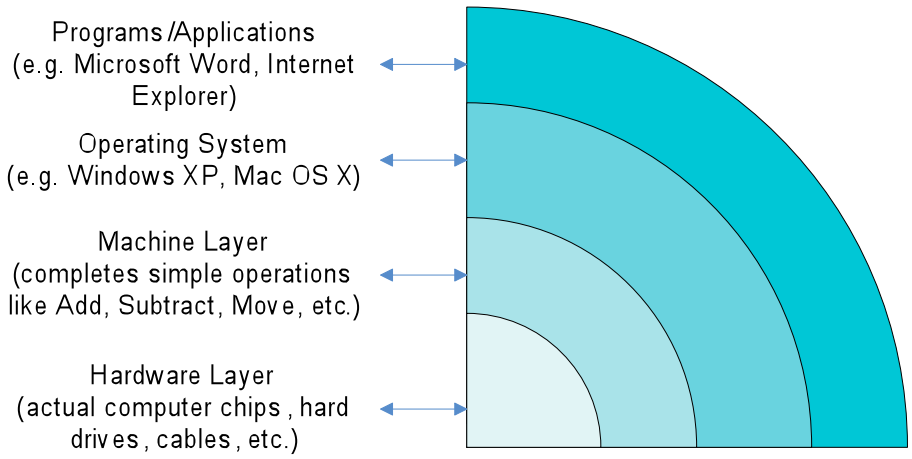
We realize that many small business owners and executives are technically savvy. We also realize that sometimes running your business takes so much time that it's difficult to keep up with technology. We'll devote some of our newsletters to areas of technology that may impact your business, and explain them in plain English. In this issue, we'll talk about virtualization.

All the best,
Rafi and Josh
Founders, Cartwheel

What is Virtualization?

You've probably seen this term in the popular media, especially since relatively new companies like VMware have gone public and made billions. The truth is, this term is as old as the first computers, and in reality, the concept itself hasn't changed much. This is really a case of an old technology getting new life.

The simplest way to explain virtualization: it's a computer (or computers) acting like a different computer. To really understand virtualization, you need to see the computer as layers of an onion. Below, we've illustrated a simplified model of a computer as an onion.



The secret of virtualization is that each layer is concerned only with the layer directly beneath it. For example, when Intuit releases a new version of Quickbooks, it needs to test it on every Microsoft Windows XP and Vista (Operating system layer) version, but doesn't have to worry about whether the computer has an Intel chip or an AMD chip (Hardware layer).

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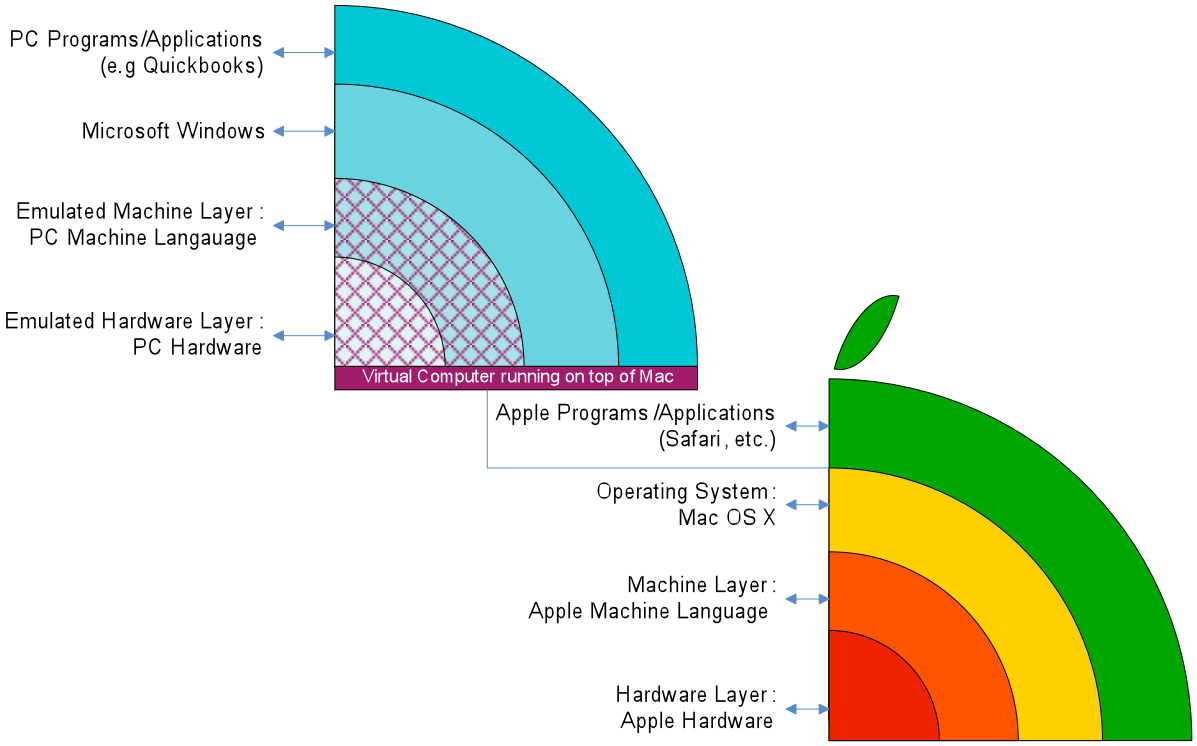
VMware, and companies like it, make software that sits between or above a layer of the computer, and can emulate other layers. Since the software can sit on different layers, there are different types of virtualization. To keep things simple, we'll focus on a type of virtualization – hardware virtualization – and a program you've probably already heard of: Parallels virtual desktop for Mac.

Parallels allows Apple computers to run Microsoft Windows. Let's look at how they do it. Parallels chose to put the software on top of the Operating System layer of the Mac. That means that it's a program that runs on your Mac just like any other application (e.g. Safari). Parallels is a hardware emulator, which means that it pretends that it is an entire PC. With it, you can run PC-only programs on your Mac. Here's what that looks like as part of our "Virtualization Onion" diagram:



What does this mean for you? If you buy Parallels for your Mac, you'll get a PC for $60! You'll still have to buy Microsoft Windows for it, as well as any PC programs you need. What's the catch? The virtual PC will work slower than a real one, because it's really running on a Mac, and the Mac is doing other things at the same time. Still, you can see how virtualization can be a money saver.

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When we look at large server farms, with thousands of servers, we can see how virtualization can save a ton of money. If I want 30 servers, I can buy one very big computer, and run 30 different servers on it with virtualization. This is substantially cheaper than buying 30 different computers.

If you'd like to find out more about virtualization, and what it can do for your business, just give us a call at 212 206 9619.

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