

TOPIC: TECHNICAL SOLUTIONS TO INCREASE EFFICIENCY

QUESTION: Describe the technology and tell its background/purpose?

“The technology that we’ve just started to use at Kenton City schools is virtual machine technology which consists of letting you run on one physical piece of hardware, multiple, virtual machines. Each one totally separate from each other and from the hardware itself. So, it allows you to consolidate servers. If you have to have a piece of software that has its own server, instead of having to dedicate a physical machine to it, you can just make a virtual machine that runs on the same physical hardware. So, you have a physical piece of hardware running several different servers all virtualized.

Instead of, having one network operating system running all your services, a web server, a mail server, DNS, you can separate those off in the virtual servers on the same piece of hardware. So, if you upgrade your DNS it doesn’t affect the other ones ‘cause it’s in it’s own virtual little world without seeing everything else. If you are wanting to test things, you can copy your virtual machine to another virtual machine. Because all it is is a folder on the hard drive. You copy it, start up the second copy of the virtual machine, you can do whatever you want to it and your first one’s still running and going on.

Let’s say you have a piece of software that requires this certain operating system at this certain version. Well, before virtualization, you’d have to put a physical machine in, load that version of the operating system to run that piece of software. So, then you’re riding another machine, that physical machine that you have to take care of. With virtualization, one physical machine, the virtual software, the virtual machine, can be running that particular operating system on the machine along with other ones. So, you can have operating system one in a virtual machine on the same physical hardware, operating system two in a different virtual machine on the same physical hardware. So, there you have two operating systems and virtual machines running on just one physical piece of hardware. And, you can do tests, you can test upgrades without it affecting your services.”

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