

Desktop Virtualization at Seattle Children's

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So, what's all this talk about virtual desktops, the cloud, and something called BYOD? Let me detech some of the talk you may have heard from your IT folks.

Desktop virtualization is simply running a desktop operating system (either Windows or Linux; Apple won't let you) on a device other than the device it's physically running on. Essentially, think about it as a super long keyboard, mouse, and video monitor hooked up to a computer. Why would you want to do that? Let me explain the whys and hows that lead us to virtual

desktops at Seattle Children's.

The number one reason Children's started using virtual desktop interface, or VDI, (that's what we call it here) is/was for speed. A couple of years ago, Children's held a "patient safety day" during which staff reviewed policies, practices and procedures to identify ways to improve patient safety throughout the hospital. Surprisingly, one of the issues that came out of that day was the speed of log on to a computer system, along with the ubiquity of devices. Our answer to this speed and ubiquity challenge was VDI. With VDI, we were able to reduce initial log on times to a reliable 43 seconds; previously, initial log on took anywhere from two to ten minutes. And with VDI, reconnecting throughout the day now takes only 6 to 23 seconds. Because the hardware cost of VDI is so low (approximately \$400), and maintenance almost non-existent, we were able to place a VDI device wherever a clinician thought they might need access. Although we solved the initial problem of speed, we continue to work on shaving seconds off the time. Our clinicians have become what we call "hyper-mobile," with some folks moving to fifty or more different devices during one shift. With

that many moves, saving a couple of seconds each time — in addition to the estimated 45 minutes a day we're saving in shorter log on times — allows our clinicians to spend more time caring for our patients and families.

But, it turns out that VDI is a gift that keeps on giving. Because everything is in the "cloud" — which in my mind means anywhere not on the physical device you're using — we're able to provide the exact same desktop to our staff and clinicians anywhere in the world on any device that's capable of installing Java — which is almost all devices. Think about that a second: any device, anywhere, at any time — perfect conditions for a "bring your own device" (BYOD) strategy. If someone in your organization has a favorite type of device they use 90% of the time and only accesses corporate assets 10% of the time, we now have the freedom to let them use whatever they'd like as their primary computing device and just use VDI to access Seattle Children's data. We've found this to be extremely helpful at Seattle Children's Research Institute where a good number of our researchers need particular devices for specialized research-type programs, but still need access to corporate data.

You're probably thinking that your "security folks" would never let you access corporate data using your own personal device. And, they absolutely shouldn't let you do that, unless you're using VDI or some type of virtualization. With virtualization that is configured properly, your corporate data never actually leaves your corporate data center. Remember, with VDI you're using a super long keyboard and mouse to access a desktop that's running somewhere else from which it accesses data that's stored in your corporate "cloud." This means, you don't have to worry about a device getting lost or a potential data breach if a device is lost. All that data never even got onto that device; it stayed in the cloud in your cor-

poration. I'd like to be able to take credit for thinking through things and developing this strategy, but we just stumbled upon it. Remember, our primary driver was speed of access for our clinicians. This BYOD strategy was just a bonus.

We discovered additional bonuses using the VDI hardware. As I said earlier, VDI devices are virtually maintenance free: they're solid state; that is, they don't have any moving parts whatsoever like a PC does. Given that, they only use about a tenth of the power a PC uses. So, with every PC we replace with a VDI, we save nine tenths of the power cost. With more than 3,500 VDI deployed, we're starting to save some real money that

can be reinvested back into caring for our patients and their families. Because the VDI are solid state, they don't make any noise either. When we deployed a VDI device to each bedside last winter it really made a difference. I can't imagine a PC whirring and clicking throughout the evening as our patients and families tried to sleep. That may seem like a mundane feature, but it affects a critical factor in a patient's recovery.

That's what VDI is and how and why Seattle Children's is using it. So, the next time your IT folks start talking about this stuff, you may just want to consider it. We're glad we did.

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