

# Inside Perspective

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## Solutions in Search of a Problem – The Lure of Trendy Technology

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One thing that social scientists tend to agree on about the male of the species is that we are inveterate problem solvers. We troubleshoot all the time, often to the detriment of our relationships. Sometimes we become more interested in the solution than the problem itself. Somewhere in our junk drawers there's a Popeil Pocket Fisherman that is indeed light and portable, but somehow doesn't quite match up to our 'ole fishing rod. Then there's the GPS tracking device that can only reliably tell us for certain that we did indeed hit our golf ball so far into the woods or the water that we will never see it again. The manufacturer apparently did not consider that I didn't need a way to find an irretrievable shot. Deep in the bottom of my electronics junk box there's an Apple Newton, an early iPAQ, a RIO MP3 player, and an original Motorola flip phone – now all replaced by the ubiquitous Treo. Nerdy as I am, I still had no desire to look like I was wearing Batman's utility belt. The shortest-lived of these fine devices found its way into the scrap heap in 30 days, the longest in 9 months – hardly what one would call strategic technology decisions.

I guess it's harmless enough when we experiment on ourselves, but it's another thing altogether when we consider putting Healthcare Information Systems at risk in the name of cool technology. After all, our lemming-like charge of Wal-Mart's gates over the PS3 is unlikely to cause the wrong medication to be administered to a patient, or a server rack to be drenched in effluents. The PS3 analogue of today's healthcare technophiles is the often recycled notion of *virtualization*. I'm not talking about the Arthurian code of chivalrous conduct. Rather, I'm referring to the obsessive desire currently permeating the technology community to virtualize storage, media, servers, clients, and networks. This is not a new notion in IT at all. The "VM" in IBM's core mainframe operating systems that in some cases date to the 1960's refers to "virtual machines". At the core, there are many benefits to virtualization, especially the ability to manage IT assets – storage, CPU cycles, and networks as scalable commodities drawn from discrete resource pools. The problem with this approach in the past, which is still the problem in the present, is you are forced to gamble your enterprise on virtualization technologies which are all (by definition) proprietary, and are generally more subject than most technology offerings to the winds of change.

A prime example is the way Citrix has filled the *client virtualization* role in the Windows market. Their vital role in enabling enterprise-wide deployment of cross-generation applications and in reducing bandwidth requirements for Client/Server applications has been essential to the growth and success of many applications. Over time, however, Microsoft put their first layer of client virtualization into the Desktop OS with Windows

XP, and is planning further moves as part of the Windows Vista and Windows Live initiatives. In the processor space, Intel has built a level of virtualization into new Dual Core motherboards, and products with growing commercial acceptance are beginning to tout client virtualization functions. Citrix is now focusing on their other key differentiators like security, asset management, and session management – as Windows and the general market successfully subsume some of their original feature set.

Back here in the “MAGIC Kingdom” life proceeds apace. Clients discussing their technology plans with us almost always ask about server virtualization. This is almost always accompanied by stories of how they combined their fund-raising application, five departmental file servers, and a couple of specialty databases onto a single physical system using *VMWare ESX Server*. More power to ya, peeps! I’m a big fan of better IT resource management. Now let’s peel back the onion and see what we had here. Eight former Windows servers, each running at under 10% utilization, none using SAN-based storage, and all utilized in “bursty” rather than continuous mode. *The reason it works so well is that this is the problem VMWare was designed to solve.*

Now let’s talk about MEDITECH servers. Consider database processes designed by a company that still writes and maintains its own operating system, and has driven 3 of the top SAN vendors to actually deliver working replication technology to the healthcare market. We’re discussing HCIS Software that routinely drives network, storage, and CPU utilization to 40-80% levels. MEDITECH uses server technology efficiently today, and as the applications become more complex to support the clinical needs of MEDITECH’s user community, MEDITECH’s technology utilization levels are likely to increase in some areas. So stated simply, *server virtualization* solves a problem that MEDITECH does not have. In fact, virtualization is more likely to degrade performance in an environment that is already optimized.

This does not mean that server virtualization does not have a meaningful role in HCIS – simply that at present, that role does not apply to MEDITECH database/file servers. Those looking to jump on the virtualization bandwagon should also consider that many industry followers believe that virtualization technology belongs in the operating system, and that we will see increasingly compelling virtualization offerings in Windows Server (beginning with Longhorn) as well as popular Linux distributions. So much as Citrix is today, VMWare in the future will be differentiating themselves mainly on their strong array of management and recovery features, rather than their core server virtualization technology.

As we move into the holiday season and New Year, I join my colleagues in thanking you for working with us and wishing you peace and progress in 2007. Whether it’s your holiday shopping or your data center wish list, the old Latin warning – *Caveat Emptor* – still applies.

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