



COMPANY

West Gastroenterology Medical Group is a family-oriented, southern California-based medical group that is dedicated to the prevention, diagnosis, and treatment of gastrointestinal diseases and disorders. Founded in 1978, West GI has established itself as a leader in the field of gastroenterology, a status it has achieved in part by leveraging the latest in technology for the benefit of their patients. Maintaining an agile information technology (IT) infrastructure that can be quickly and easily evolved over time to meet the requirements of West GI's fast-growing business is a critical concern. West GI's business plan going forward leverages an electronic medical records (EMR) deployment and a patient management services model to make new acquisitions productive almost immediately as they bring high quality care to a broader set of patients.

INDUSTRY

Healthcare

CHALLENGES

- Meet performance requirements while keeping storage costs in check for the near-term deployment of an EMR system
- Provide a workable administrative model for scaling in West GI's Microsoft Hyper-V environment

SOLUTION

Microsoft Windows Server 2008 Hyper-V R2 and Virsto

RESULT

Meeting fast provisioning times within budget constraints with an easy to manage, high performance Hyper-V environment based on Virsto One

"If it weren't for Virsto, we could not have delivered on the promise of Hyper-V as cost-effectively as we have."

*Femi Adegoke
IT Director*

CHALLENGES

West GI has practice locations in the cities of Los Angeles, Long Beach, Inglewood, Thousand Oaks, and Murrieta. It also provides medical services at most major hospitals in Los Angeles, Riverside, and Ventura counties. Their IT operation is centralized in the Los Angeles location. As West GI began to acquire other clinics in the greater Los Angeles area, the benefits that an EMR system delivered through a managed services model would offer became economically compelling. At that time, Femi Adegoke, their IT director, made two critical infrastructure decisions. West GI set up a second data center location to use for disaster recovery (DR) purposes to meet high availability requirements, and they would move to virtualization technology – both server and desktop – to provide the IT flexibility they needed to keep up with their business growth. For their server virtualization platform, West GI chose Microsoft Hyper-V. West GI's goal is to move towards 100% virtualization of both servers and desktops to enable fast, easy provisioning of new desktops and the required supporting resources as they continue to add acquisitions over time.

"Our Hyper-V deployment was pretty much delivering on our flexibility goals, but we noted that the administrative time required to provision virtual desktops in particular was impacting our business in several ways," said Adegoke. "Creating the snapshots I needed with conventional snapshot technologies took a lot of time, and this was interfering with our practitioners' access to our patient management systems. Due to the nature of our business, our end users work long hours, leaving little time when administrative operations could be performed without impacting the availability of critical applications."



During Adegoke's initial prototyping, it was also clear that the use of Hyper-V's *dynamic* disks would not meet their performance requirements. The use of *fixed* disks provided adequate performance, but posed management challenges and consumed much more storage capacity than dynamic disks required.

SOLUTION

Because he is managing a small shop, Adegoke was particularly concerned about putting the right infrastructure in place to enable cost-effective scalability without a lot of administrative time. In Hyper-V environments, each new desktop requires its own VHD file which for most of West GI's desktops is somewhere between 10GB and 15GB. Bits must actually be moved to create new VHD files, and copying those files was imposing undue costs in terms of administrative time. And each new VHD file takes up significant additional storage capacity, so as desktop images proliferate storage capacity requirements increase accordingly. Adegoke went on-line initially to research options that would speed up snapshot copy operations in Hyper-V environments, and found Virsto Software mentioned on a blog. What initially piqued his interest was Virsto's claim that they could *instantly* import a VHD file to a new virtual machine (VM) while taking up *no additional storage capacity*. With Virsto, all VHDs are thin-provisioned so additional storage capacity is only consumed as the original image changes.

To ensure that they would meet performance requirements for their two-site deployment, West GI had purchased Dell EqualLogic iSCSI storage

arrays, so keeping add-on storage costs low by minimizing the amount of storage that was provisioned up front was a concern as well.

"In our lab, we proved that Virsto supported instant snapshot copy operations that would save us hours of administrative time while reducing our storage capacity requirements by almost 75% relative to what we were seeing before," continued Adegoke. "Discovering that Virsto also offered almost a 3x improvement in storage performance as well was a nice surprise that had significant implications for our ability to cost-effectively scale our IT infrastructure over time."

RESULT

The bottom line for West GI was simple: Virsto addressed their provisioning time and storage capacity concerns, lowering administrative and storage costs, and gave them a huge performance boost. "With Virsto deployed, I will be able to provision new desktops very quickly so that we can bring new acquisitions into the fold and get them productive in many cases days sooner," added Adegoke. "The performance and storage capacity utilization benefits are icing on the cake that will translate directly to a more responsive, lower cost IT infrastructure that supports more end users with a given set of resources."

"We bought into Hyper-V because it promised to give us the flexibility we needed to meet our evolving business requirements," concludes Adegoke. "But if it weren't for Virsto, we could not have delivered on that promise as cost-effectively as we have."