

U.S. Army improves patient record access with VDI and Xangati

Customer Success Story



To give its doctors more time to treat patients, the U.S. Army converted its desktop health care patient record application system to a virtual desktop infrastructure (VDI) with Xangati VDI Performance Management Solution to assure high performance of the entire VDI environment allowing their doctors consistently fast access to patient record. Using VDI storage with solid-state and the Xangati VDI Performance Management Solution has reduced login times from 3-to-5 minutes to less than 30 seconds in early implementations.



The Problem

The U.S. Army patient record system had become very slow. Since Army doctors typically only have about 15 minutes for each patient, delays spent trying to log on to the patient record system meant doctors ended up spending less time with each patient. The system was inefficient and required resolution for the benefit of both the doctors and the patients. A proactive performance solution was in order. The VDI project was part of a pilot program run by eight U.S. Army hospitals.



The Solution

Lloyd Havekost said the Army is converting the Armed Forces Health Longitudinal Application patient record system from a standard desktop application to a XenDesktop 5.6-based virtualized desktop. It is part of the Army's Clinical Application Virtualization (ACAV) project.

“By bringing VDI into the equation,” Lloyd Havekost, virtualization architect for the USAMITC, added, “you give [a doctor] that roaming profile capability ... and the patient record system is available to him no matter where he travels within that hospital.”

The project takes advantage of tiered storage with RAM, solid-state drives (SSDs) and hard drives. It includes NetApp storage arrays, Atlantis Computing's ILIO Diskless virtual desktop infrastructure (VDI) storage optimization software, Hewlett-Packard (HP) blade servers with SSDs, and Citrix Systems' XenDesktop and XenApp software to virtualize desktops and applications.

The Army deploys ILIO Diskless VDI software on HP BL460c G7 Servers with 100 GB SSDs within each physical host. The servers are connected to racks with NetApp arrays, ranging from 18.8 TB to 72 TB per rack.

ILIO Diskless VDI uses RAM instead of disk drives to boot images in non-persistent Citrix or VMware Inc. VDI deployments. Using RAM speeds performance and reduces the amount of dedicated storage needed for VDI.



Performance Management of the VDI environment

Without proactive performance management VDI environments can suffer from indeterminate performance issues negating the benefits of VDI. Each racked system includes Xangati Inc.'s virtual machine performance monitoring software.

The ILIO Diskless software and non-persistent virtual desktops run on the physical host's RAM, while VMware's vSphere server virtualization software and the other applications use the SSDs. That prevents virtual desktops and hypervisors from competing for storage resources. The Xangati software monitors server RAM so it can be reallocated when needed.

To improve connections to remote clinics, Havekost uses Riverbed Technology Inc.'s Steelhead WAN optimization appliances. Havekost said the addition of SSDs allowed him to use 30% less spinning disk. Using ILIO software with server RAM resulted in another 20% bump in performance, he said. He puts the desktops of typical knowledge workers on the SSDs and uses system RAM for doctors who need to view large and detailed images.

The Fort Carson Army hospital near Colorado Springs was the first hospital to install the VDI racks in late 2012. Fort Carson has approximately 100 health care providers on the VDI system. Overall, the project currently has approximately 600 users. The remaining seven hospitals participating in the project are in the continental United States, Europe and Hawaii (for the Army's Pacific Rim installations). The plan calls for the project to eventually include more than 11,500 users.

“This project was conceived because the patient record system has gotten very slow. And it had become very inefficient for the doctors to see patients.”

– Lloyd Havekost, virtualization architect for the Army's Medical Information Technology Center (USAMITC)

About Xangati

Xangati is a leading performance management solution provider for enterprises and service providers operating in virtualized data centers and hybrid cloud environments. Over 300 customers among enterprises, government agencies, healthcare organizations, educational systems and cloud providers use Xangati's solutions to gain unprecedented Application-Aware Infrastructure Intelligence™ on their virtual and Web applications, VDI, and VI environments. Xangati's solutions, built on patented technology, provide a second-by-second, live and continuous view into the entire infrastructure with deep analytics and remediation recommendations. Organizations like, Comcast, British Gas, Colliers International, Univita Health, DTCC, Harvard University and the U.S. Army have used the Xangati Product Suites to resolve end-user issues more quickly, manage their large scale environments, determine root cause of alarm storms and see overall health at a glance. Xangati is headquartered in Silicon Valley and can be found online at www.xangati.com.



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