US Army Marches Forward with VDI Deployment Based on Nutanix

Company Background

The US Army is the largest branch of the United States Armed Forces. It is responsible for land-based operations. The US Army currently consists of 562,000 active personnel and 567,000 reserve and National Guard personnel.

Servers and SAN Too Slow for VDI

When Paul Carter joined the IT department of the US Army as a Virtualization Architect Consultant, the pilot VDI project in the organization was not going well. The VDI solution was running on a traditional, big-name server and SAN infrastructure. A small number of users tested virtual desktops for a week and were very disappointed with the slow performance. According to Carter, their feedback was: "I want my desktop back. As slow as my physical desktop was, I just need that back because this is terrible." If VDI was going to work, they clearly needed a better infrastructure.

The Army was motivated to transition away from physical desktops because the operational costs were high. Software licensing, hardware replacements, compatibility issues and the administrative costs to support users and periodically roll out application and OS patches added up. Since VDI hosts desktops in virtual machines on a central server, it is much easier to provision standardized desktops, push updates and patches, support users, back up data and provide security.

In fact, the Army's senior CIO issued a directive for implementing thin-client VDI for its 40,000 physical desktops. Carter's group was tasked with creating a pilot VDI solution for the 800 users in their organization that eventually could scale out to all 40,000 desktops.

Nutanix Performance, Price, Footprint Unbeatable

Carter was familiar with the Nutanix converged compute and storage platform from a prior VDI project for the Department of Justice. Impressed with its speed, price, converged architecture and high-availability clustering, he recommended switching to the Nutanix Complete Cluster for VDI. "Nutanix offers an all-in-one solution. The ability to not have a SAN, to have four nodes with all the memory and the compute resources it offers, to stripe data and to have HA. In case a node goes down, the other three nodes pick it up. The all-in-one solution was a big selling point for us," he said.

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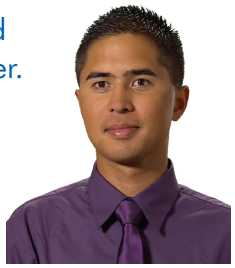
>
> - Paul Carter, Virtualization Architect Consultant supporting US Army



U.S.ARMY

Business Needs

Server and storage infrastructure for VDI implementation that delivers much higher performance than traditional enterprise servers and SAN and can scale out to 40,000 users.

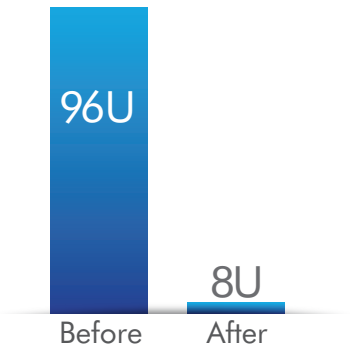
Solution

Four Nutanix Complete Blocks

Benefits

- Outstanding performance and user experience
- Half the cost of physical desktops
- 92% reduction in datacenter rack space
- All-in-one solution with excellent support
- Dramatically simpler desktop administration
- Reduced helpdesk personnel from 15 to 4

Reduction in Datacenter Rack Space



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However, the organization had already invested a million dollars in the enterprise servers and SAN. Carter had to make the case to key decision makers and division chiefs for abandoning that infrastructure, repurposing it, and investing anew in Nutanix. This was a challenge at first. But, when management saw the advantages of Nutanix, they readily agreed. They were impressed by Nutanix's superior performance and user experience, and the fact that it would cut cost per user by half (compared to physical desktops) and the number of helpdesk personnel from 15 to 4. Users also reacted positively to Nutanix. "The performance was off the charts compared to the previous solution. They were much happier. It was definitely a physical desktop replacement solution, and they loved it," said Carter.

The Army had also considered solutions from Dell, HP and the all-in-one Cisco FlexPod with NetApp storage, but none of them matched the combination of price, performance and compact footprint of Nutanix. In fact, Nutanix is so compact that the entire deployment of four Nutanix Complete Blocks for 800 users consumes only 8U of rack space, while displacing two full 48U racks of server and SAN infrastructure, a 92% reduction.

The Army used PCoIP zero clients to replace desktop PCs, laptops and PDAs. Zero clients provide displays, network connections and peripheral I/O, but no local storage or processing. They cost less than PCs and have a longer expected life because they have fewer parts and none that move.

Fast, Secure and Easy to Manage

Desktop administration for the Nutanix-based VDI solution is much simpler and less labor-intensive. Rather than handling 800 physical desktops, they only patch and secure a single base image and push it out to all users. As one might expect, the US Army maintains a very secure environment. Keeping all user information in the datacenter and dealing with one desktop base image streamlines and enhances security procedures.

An unusual anecdote demonstrated the compactness and flexibility of the Nutanix Complete Block. There was an incident that required removing the system temporarily from the datacenter. Carter put the Nutanix system on his desk, plugged it in, connected it to a 10GbE switch and let it run there for a month serving about 100 desktop users. Not something one can do with traditional enterprise server and SAN infrastructure.

Nutanix performance benefits also show up in VM administrative tasks, such as taking snapshots and recomposing linked clones. The tasks complete very quickly.

Nutanix's converged platform and commitment to excellent support has been a pleasant contrast to dealing with different vendors and support contracts for servers, storage and networking, "I like dealing with Nutanix because Nutanix has a lot of smart people and I can count on them to give me a straightforward answer and good advice. Nutanix is an all-in-one solution, so if I have issues with performance or the storage or the networking, I just call them," said Carter.

"My job before Nutanix was a lot harder. Now that we have implemented Nutanix, there is a lot less stress on my shoulders. It is much more carefree. Nutanix is great," Carter added.

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About Nutanix

Nutanix brings forth an exciting new SAN-Free virtualized datacenter platform, converging two tiers of infrastructure down to one. Through the use of innovative server-attached PCIe Flash and high capacity SATA drives, Nutanix' innovative distributed storage and compute cluster localizes the data-path for higher performance and reduced complexity. Inspired by SAN-Free distributed systems employed by Google, Amazon, Facebook, and Twitter, Nutanix is first to market with an enterprise-friendly, easy to deploy storage and compute cluster that dynamically grows to meet business demands. For more information please visit www.nutanix.com.