

**Woodforest harnesses user virtualization to make its desktops dance**

Analyst: Rachel Chalmers

Desktop virtualization may be in its infancy, but companies with successful server virtualization deployments under their belts are tackling it with more confidence every day. With technical innovation a part of its corporate DNA, **Woodforest National Bank** was unusually well-positioned to virtualize its desktops.

**Early Adopter Snapshot**

Through an innovative partnership with retailers that enabled it to offer live banking 24/7, Houston-based Woodforest made itself one of the fastest-growing banks in Texas. A successful server virtualization project led IT staff to believe they could reproduce that success on the desktop tier.

**Challenges to adoption**

User profile management turned out to be trickier than the company expected. The issues of offline operation and application virtualization remain to be solved.

**The 451 take**

Woodforest's experience demonstrates the efficiencies desktop virtualization can deliver. With well-built virtual server and storage tiers to back it up and intelligent profile management, the company's deployment gives end users virtual desktops that work better than their physical equivalents, while taking a fraction of the time to build.

**Context**

Founded in 1980 in The Woodlands, Texas, Woodforest National Bank took an innovative approach to retail banking. In 1996, the company aligned with **The Kroger Co** and **Wal-Mart** to open a consumer-facing retail bank with branches inside Kroger and Wal-Mart stores. In doing so, it became the first in Texas to offer 24/7 live banking. That wasn't Woodforest's only innovation on the customer-service side. The bank also pioneered seven-day processing, deposit deadlines as late as 8pm and Tu Banco – a full-service bilingual bank for its Spanish-speaking customers.

Woodforest National Bank is now one of the largest employee-owned banks in the Houston area. It operates more than 700 branches in 15 states: Alabama, Indiana, Illinois, Kentucky, Louisiana, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia and West Virginia. In 2008 alone, Woodforest opened 200 new branches. As well as Kroger and Wal-Mart, stores such as **Fruitylandia**, Sam's Club (**Sam's West**) and Tom Thumb Food & Pharmacy (**Safeway**) have colocated branches.

### Strategic vision and business drivers

Woodforest's president and CIO is Charles Manning. His motto has always been that Woodforest is a technology company that happens to be in the banking industry. The biggest challenge is finding the technology jigsaw-puzzle pieces that will help the company maintain its formidable growth. Server virtualization has long been viewed as a critical component of the stack. The company started out with server-side **VMware** four or five years ago. Today, 90% of the servers in its Houston datacenter and Dallas disaster-recovery (DR) site are virtualized. The success of this project has encouraged Woodforest to shift its focus to desktop virtualization.

### Deployment summary

Deployment services manager Philip Sinquefield says the bank looked at six different desktop virtualization vendors before choosing **Citrix** and VMware for a pilot. Eventually, Woodforest settled on VMware, primarily because it had already standardized on VMware for the server tier. The bank reasoned that it would be easier to support an all-VMware infrastructure than a VMware server tier and a Citrix desktop framework.

It was during the proof-of-concept phase that Woodforest discovered a need for sophisticated profile management. End users looking at the technology found that they could not maintain sessions when they floated around between different physical machines. These early testers made it clear that without the ability to save and restore stateful user data, regardless of location, they would not buy into desktop virtualization. If Woodforest couldn't solve the problem of persistent state, its new project would be stillborn.

IT staff briefly considered working around the limitations of **Microsoft's** roaming profiles. Roaming profiles, a workaround originally developed by Microsoft to give users of Windows NT the ability to work from different machines on the LAN, are a clever hack. They store user settings in any shared folder in a local network. Unfortunately, they are famous for increasing logon times until the delay becomes actively irritating to end users. While folder redirection, included in Windows 2008, goes some way toward easing the pain, it wasn't long

#### Company name

Woodforest National Bank

#### Activities

Retail banking

#### Head office

Houston

#### Project

Desktop virtualization

#### Project goal

Centralized desktop management with bare-metal equivalent performance

#### Key suppliers

AppSense, EMC, HP, VMware

before Woodforest abandoned roaming profiles and turned instead to two user virtualization vendors, **AppSense** and **triCerat**.

These vendors and their technology belong to a class of user virtualization we have defined in a forthcoming report as profile managers. (AppSense itself prefers the term 'policy and personalization manager.') Their products plug into and extend Microsoft local, roaming and mandatory profiles. Profile management, the simplest and most mature approach to user virtualization, has already enjoyed considerable success in the terminal-services world. After using AppSense Environment Manager in its labs for a few weeks, Woodforest decided that this product would be the best choice to scale to match the bank's rapid growth.

With the profile problem solved, IT staff could proceed with the rollout. As with other deployments we have seen, Woodforest's desktop virtualization project benefited enormously from the foundational work done on the server tier. The company has around 40 ESX hosts running on **Hewlett-Packard** ProLiant c-Class Server Blades in their Primary and DR sites hosting around 300 Servers. The bank uses a **Hitachi** storage back end and depends on **EMC** RecoverPoint for SAN-to-SAN replication.

After successful lab tests in the second quarter, Woodforest began deploying desktop virtualization at the rate of one department per week, starting in the third week in July. The bank simply bought new hardware and then dropped six hundred virtual desktops into this infrastructure alongside their server siblings. There are sixteen departments involved in the project. Each will have its own set of linked clones, specifying which corporate applications belong in that department's standard desktop. AppSense Environment Manager provides the icons, open database connectivity connections, mapped drives, Active Directory Group Policy settings and certificates to the user's workspace. **Altiris** Deployment Solution handles application delivery.

The first week of deployment was challenging, and required some minor configuration adjustments to the View clients. However, efficiency jumped immediately. Where it had taken staff 45 minutes to build a physical PC, the same process could be completed in 15-20 minutes for a pool of 20 machines. End users will also get to take advantage of disaster recovery. If another hurricane like 2008's Ike hits Houston, employees will be able to fan out and still access their virtual desktops from the Dallas site. AppSense Environment Manager provides the same user experience between both sites. The users have all the same settings between the Primary and DR site. Best of all, users say their virtual desktops are as fast as, if not faster than, the physical machines they replaced.

Woodforest estimates a significant decrease in cash expenditure with the virtual desktop infrastructure implementation, saying that the bank would typically spend about \$400,000 every three years to replace 600 physical machines. By using thin client devices for VDI, replacement expenditures would run approximately \$400,000 every 10 years instead, or about \$180 per user, including AppSense and all other licensing, versus approximately \$600 per desktop.

### **Innovation and roadmap**

Right now, Woodforest's desktop virtualization infrastructure only supports the 600 users at its Houston headquarters. IT staff can't extend the technology to their branches, as much as

they would like to, because of the limitations of the technology and the speed of light. What would branch users do if the network dropped out? Woodforest is waiting for VMware to deliver its Client Virtualization Platform (CVP), a bare-metal client hypervisor that should enable the branches to work in offline mode. Deployment services manager Sinquefield says the ideal model is a virtual desktop that automatically stores itself locally and then synchs with the datacenter at regular intervals.

Another potential improvement is the addition of true application virtualization to replace Altiris Deployment Solution. This was on the wish list for the initial deployment, but staff didn't believe they could get all the applications virtualized in time. They settled on straight installs of applications, while retaining the option to come back around and start virtualizing them. Sinquefield is considering Microsoft's App-V or VMware's ThinApp for this purpose.

Is this automated, shared-resource virtual infrastructure a private cloud? The question makes Sinquefield laugh. The engineers think of it as cloud computing. WoodForest doesn't mind looking at new technology coming down the pipe. Next on the to-do list: vSphere 4. Watch this space.

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