



Golden Ventures Adopts 64-bit Computing to Optimize IT for Enhanced Healthcare

Golden Ventures serves 336 nursing home subsidiaries of two skilled nursing companies, as well as 68 hospice and home health locations. Golden Ventures provides IT services on a contractual basis to these clients and offers a menu of IT services, including application hosting. Nursing homes are provided with a standard desktop of virtualized applications based on their specific requirements.

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DAVID VALCIK

Vice President, Technology Services,
Golden Ventures

THE CHALLENGE: MOVING BEYOND THE LIMITS OF A 32-BIT ARCHITECTURE

As an early adopter of technology, the Golden Ventures IT department standardized on a Citrix Solution to overhaul its distributed client/server IT infrastructure, which could no longer deliver adequate application performance. Slow performance was distracting nurses from clinical care duties and leading to expensive overtime and extra staffing to complete reports. In addition, the high cost of administering this decentralized system was a drain on corporate IT resources. The company also needed a way to strengthen compliance with government regulations, including HIPAA and Sarbanes-Oxley. By implementing Citrix Presentation Server™ and Citrix Password Manager™, Golden Ventures improved application performance, enhanced compliance, and avoided millions of dollars in PC upgrades by extending the useful life of existing hardware.

Today, this same IT team continues to seek out the latest innovations that can help keep costs down while delivering the best computing experience for its dispersed customers so they can provide the highest-quality care.

At the time Golden Ventures was formed following the merger of Beverly Enterprises and Pearl Senior Care, the IT department was running Citrix Presentation Server on 200 HP blade servers and supporting three to five facilities per server — achieving 60 concurrent connections per server. Each nursing facility receives a tailored desktop of applications that typically include VistaKEANE patient documentation, PeopleSoft HR and Benefits, and Microsoft® Office.

Key Benefits

- Reduces costs through server consolidation, extended device life, greater productivity
- Frees up staff time to deliver direct patient care
- Strengthens compliance and security across the expanded organization
- Simplifies IT administration by deploying a standard desktop of virtualized applications
- Reduces Web application hosting costs by offloading SSL encryption and TCP/IP connection management

Users include nurses, certified nursing assistants, billing and maintenance staff, and administrators. The Citrix solution also provides secure, remote access for mobile employees and home-based workers.

Although the Citrix products had already delivered a host of performance and TCO benefits, the company wanted to achieve even greater ROI to support business growth. David Valcik, vice president of Technology Services, said, “We wanted to get significantly greater user density so that we could reduce the number of servers and their overhead costs.” The advent of 64-bit computing across multiple system components gave Golden Ventures the opportunity to do just that.

IMPLEMENTING A CITRIX SOLUTION FOR SERVER CONSOLIDATION AND HIGHER USER DENSITY

As a test customer, Golden Ventures ran a pilot implementation that comprised Citrix Presentation Server for Microsoft® Windows Server® 2003 x64 Edition, deployed on the latest HP BL45 blade servers with AMD’s Opteron quad dual-core processor. Valcik said, “This new AMD technology enabled us to put a server with eight processors in the same footprint where we previously had a two-processor blade server, effectively quadrupling processing power in the same space. By leveraging the additional capability of 64-bit Citrix Presentation Server and Windows Server 2003 in combination with these servers, we expect to achieve major user density increases and related benefits.”

When the implementation is completed, the entire organization will run on a 64-bit architecture. Nursing homes and other Golden Ventures clients will continue to receive application access via Web Interface for Citrix® Presentation Server. Users choose from a limited selection of devices, including a thin-client device, a PC and two laptops.

DRIVING DOWN SYSTEM COSTS

When the company first implemented the Citrix Solution, it was able to reduce the high cost of administering a client/server architecture with hundreds of local servers and thousands of “fat” PCs. The organization also saved approximately \$3 million in hardware upgrade costs. And with faster application performance, nurses no longer had to spend two or three hours of overtime at the end of a shift to document patient care.

The project to upgrade to a 64-bit architecture aims to further reduce system costs by significantly increasing the number of concurrent users supported on each Presentation Server.

With more users per server, the organization can consolidate server hardware to lower capital costs and administration. “With Citrix Presentation Server as a key part of this 64-bit architecture, we can get beyond our existing hard limit for users and achieve up to 500 concurrent connections per server,” said Valcik. “Right now we have four racks of blade servers that do nothing but support the facilities. We expect to cut that down to around a rack and a half — more than a 50-percent reduction. Server consolidation will have a big impact on power consumption, free up space in the data center, and give us fewer servers to replace and administer.”

PUSHING POWER TO THE USER FOR FASTER PERFORMANCE

One of the key reasons for the Citrix implementation was to solve the problem of poor application performance. “Prior to Citrix, employees were very frustrated by having to wait minutes for screen refreshes, or half a day to run a report,” Valcik recalled. “Citrix changed this workflow pattern by making it fast and easy to document care electronically throughout the workday. For example, a patient entry that previously took 30 to 60 minutes now takes five.”

The Citrix SmoothRoaming™ capability allows a nurse to finish at one workstation, lock it and log into another machine on another floor. Citrix Password Manager supports SmoothRoaming by reducing login times to less than five seconds. As a result, nurses can accomplish documentation faster, giving them more time for patient care.

Using Citrix Presentation Server for Microsoft Windows Server 2003 x64 Edition can mean another boost to application performance — even when the applications being deployed are still 32-bit. Valcik commented, “For example, during the merger, our financial department was using PCs and spreadsheets to put together a model of what the new company would look like. They were taking days to process and recalculate, and were down to the wire. How were they going to get these calculations done with Office 2000? They asked my team for help.

“We were testing one of the HP 64-bit blades at the time, so we took away their PCs and gave them a thin client. We provided

access to Office running on 64-bit Presentation Server and 64-bit Windows Server. They were able to perform functions in minutes instead of days.”

He added, “Software manufacturers are in the process of rewriting their applications. Obviously, 32-bit applications run very well in the 64-bit environment, but they’re not going to be able to utilize all its advances and processes. As new applications become available, it’s going to push more and more power down to the end user.”

PROMOTING COMPLIANCE AND SECURITY ACROSS AN EXPANDED ORGANIZATION

Because it serves a larger and more disparate organization, Golden Ventures must be even more scrupulous about regulatory compliance and protection of sensitive data. Citrix provides a secure by design foundation to ensure the highest levels of security across multiple locations. Application data is kept in the data center instead of exposed on the desktop, and the small amount of data that travels over the network is encrypted.

Citrix Password Manager enables enforcement of uniform password policies and the use of strong passwords. “Not only does single sign-on access relieve users of the burden of 10 or 15 different passwords, but it reduces help desk calls for password resets,” said Valcik, who mentioned that employees love the simplicity of Password Manager.

OPTIMIZING WEB APPLICATIONS FOR SCALABILITY

Golden Ventures is using Citrix® NetScaler® appliances to add robust server load balancing for internally and externally facing Web applications, including the company’s intranet and Microsoft® SharePoint™ sites as well as billing and clinical applications. Further, NetScaler technology optimizes the use of standard Internet protocols by offloading and multiplexing hundreds of concurrent user requests into a few persistent connections maintained between the NetScaler appliances and the Web servers. Connection offloading and multiplexing capability immediately extended the lifespan of these applications by expanding the number of supported users without the need for re-architecting.

“We typically see a client-to-backend server connection ratio of 300 to 4 on a single NetScaler application, which enables that application to perform quickly since it is freed from handling the overhead of hundreds of client connections,” said Valcik. “This will allow us to add hundreds or thousands more users without the need for additional Web architecture or redesign.”

Further, NetScaler Application Switch integrates hardware-based SSL acceleration to offload the compute-intensive processes of SSL connection set-up and bulk encryption from Web servers. Connection offloading and consolidation of SSL certificates have helped Golden Ventures save money.

BUILDING ON A FOUNDATION OF ENTERPRISE-WIDE STANDARDIZATION

While exciting, moving to a 64-bit architecture is all part of Golden Ventures’ overall strategy for providing standardized computing across the organization. “Even with this new platform, it’s still about managed desktops and managed applications using Citrix,” Valcik explained.

Networking Environment

- Citrix Presentation Server™ for Microsoft® Windows Server® 2003 x64 Edition running on 96 HP blade servers (Models BL25p, BL45p, BL465c, BL460c)
- Citrix Password Manager™
- Citrix® NetScaler® Application Switch
- Microsoft® Windows Server® 2003 x64 Edition
- Cisco and AT&T Frame network
- HP thin-client devices, laptops, PCs

Applications Deployed

- VistaKEANE (patient documentation)
- PeopleSoft HR and Benefits
- Cognos (Web application)
- Microsoft® Office Suite
- Terminal emulation to mainframe and AS400
- Various customer-developed Web applications

“You can limit your cost of ownership because you don’t have to manage dozens of different solutions vendors.

“We started down this road four years ago. The key is to use Citrix as a foundation, not a stop-gap measure. Some companies will use Presentation Server to solve a problem with one application and you wonder, why don’t you run your whole solution on Citrix? You do have to change the culture, but when you add up the savings each year, it’s a no-brainer.”

He concluded, “The bottom line is that this new Citrix solution will allow our people to be even more productive and happier, and make a greater impact on the company.”



About the Citrix Solution: Citrix Presentation Server™ is the de facto standard for delivering Windows® applications at the lowest cost—to any user, anywhere. It offers both application virtualization and application streaming delivery methods to enable the best access experience for any user, with any device, working over any network. Citrix® NetScaler® System is an application networking solution that optimizes the delivery of Web applications—increasing security and improving performance and Web server capacity. Citrix Access Gateway™ is a line of universal SSL VPN appliances that provide a secure, always-on, single point of access to all applications and protocols, and with Citrix® SmartAccess technology, finely control what enterprise resources can be accessed and what actions performed. Citrix Password Manager™ is the most secure, efficient, and easy-to-deploy enterprise single sign-on solution for accessing password-protected Windows, Web and host-based applications.

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