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Raymond van Trirum
IT Manager
Municipality of Amstelveen

Municipality of Amstelveen simplifies and standardizes server updates

The Municipality of Amstelveen (pop. 79,000) encompasses four communities in The Netherlands and is part of metropolitan Amsterdam. Amstelveen has an IT staff of 11 that manages 51 Dell servers, of which 25 run Citrix® XenApp™ with Microsoft® Windows Server® 2003. The municipality delivers approximately 200 applications to 800 users using XenApp. Applications are streamed to the XenApp servers using Microsoft® SoftGrid®.

The challenge – Reduce server administration and ensure consistency

IT Manager Raymond van Trirum said Amstelveen sought to solve two major challenges constantly encountered in managing the XenApp environment. First, the IT team found updating XenApp servers to be a significant drain on their time and productivity. Updating each server was a half-day project—with 13 IT man days required to update all 25 servers. The arduous process meant Amstelveen engineers had to spend most of a weekend installing an update and testing the new server image in preparation for a Monday morning rollout. An additional management headache was that at least one server would go down on a weekly basis, requiring a half-day rebuild.

A second challenge was the inability to maintain server-build consistency across the XenApp environment. Van Trirum said that even though Amstelveen was deploying a basic XenApp image and had written custom scripts for rebuilding its Citrix servers, “We just couldn’t manage to create 25 identical Citrix servers and keep them identical. That inconsistency—a missed patch or a DLL inconsistency—has caused a great deal of operational difficulty for us as well.”

Amstelveen’s concerns about the risks created by the lengthy update process and server inconsistency were heightened as they developed a plan for an upgrade of all 25 servers to a new version of XenApp.



Expanding virtualization infrastructure from Citrix

By adding another Citrix solution—Citrix Provisioning Server™ for Datacenters—Amstelveen has simplified and streamlined the XenApp update process and eliminated nagging image inconsistency. Provisioning Server software enables Amstelveen to provision its XenApp servers on-demand by virtualizing the server workload (in the municipality’s case, Windows Server 2003 operating system, XenApp, SoftGrid and Microsoft Terminal Services) and then streaming an identical virtual image on-demand from the network to bare metal Dell servers at boot time.

With Provisioning Server, no software is preloaded or permanently installed on the server hardware. The server workload is streamed from the network on boot. van Trirum explained, “When the Dell team first told us about streaming an operating system, our reaction was that while the concept seemed interesting, it was probably too good to be true. However, we were already familiar with application streaming and because upgrading and maintaining XenApp and keeping servers the same were our biggest challenges, we decided to take a look at Provisioning Server.

“Dell invited us to see a demonstration and it was amazing. We immediately could see that running it on the Dell servers in our datacenter in combination with SoftGrid and XenApp would be a very powerful solution. With server provisioning, we could maintain one standard image for all servers. That’s what we’ve done.”

Amstelveen conducted a six-week proof of concept that “quickly confirmed we were on the right track. By adding Provisioning Server we could accomplish our main goals of simplifying the XenApp update process and keeping our servers identical at all times.”

Reducing IT costs while facilitating upgrades

Using Provisioning Server, datacenter managers can build and maintain a library of virtual images during the imaging process as they test different components of an image in combination with others to make sure that all aspects are working correctly before rolling out the new image. “This flexibility and ease gives you more freedom to try different ways of doing things. And you’re less afraid to experiment because there’s no risk in making a mistake,” he said.

Because a single workload image can provision all Amstelveen servers running the same XenApp version, if one of those servers goes down, a reboot streams the golden image and brings it back into sync with other servers. If the team discovers a problem with a new image after putting it into production, they can just point the servers back to the previous working image, reboot them and run them on that image while they make adjustments. “This instant roll-out and roll-back capability is a great advantage. We simply could never do this before,” he said.

In addition to solving major operational challenges, van Trirum said the on-demand provisioning functionality has been a key component in Amstelveen’s upgrade of all its XenApp servers to a new version. “We are now creating and testing a new image that will enable us to upgrade all 25 servers, and that new image will also include the latest version of SoftGrid,” he continued.

Key benefits

- Cut server upgrade time from 13 man days to one
- Ensured server-to-server consistency
- Made upgrades risk-free with roll-back functionality
- Enabled IT staff to focus on strategic projects vs. maintenance

Applications delivered

- Approximately 200 applications

Networking environment

- Citrix XenApp running on 25 Dell servers
- Citrix Provisioning Server for Datacenters
- Microsoft Windows Server 2003
- Microsoft SoftGrid
- 800 Dell PCs
- 1GB TCP/IP backbone

With Provisioning Server, testing all components of a server image before putting it into production is vastly simplified and risk free, according to van Trirum. “Once you’ve built and tested an image, it can be streamed to all servers on-demand rather than provisioning one server at a time. Think about it: if you’re running a large corporate datacenter and you regularly have to update and patch 200 or 300 or 1,000 servers, Provisioning Server eliminates large portions of the imaging time, testing time, and troubleshooting and maintenance time. You could never streamline management to that level using another approach. The positive economic implications are significant.”

The Citrix solution has also helped Amstelveen achieve rapid return on investment. “When we selected Provisioning Server we knew it would quickly pay for itself in the engineering time it saves. In our deployment it will save us at least one engineer, but more importantly it will free our engineers to innovate and to work on more important issues than server maintenance.”



Worldwide Headquarters

Citrix Systems, Inc.
851 West Cypress Creek Road
Fort Lauderdale, FL 33309, USA
T +1 800 393 1888
T +1 954 267 3000

www.citrix.com

Americas

Citrix Silicon Valley
4988 Great America Parkway
Santa Clara, CA 95054, USA
T +1 408 790 8000

Europe

Citrix Systems International GmbH
Rheinweg 9
8200 Schaffhausen, Switzerland
T +41 52 635 7700

Asia Pacific

Citrix Systems Hong Kong Ltd.
Suite 6301-10, 63rd Floor
One Island East
18 Westlands Road
Island East, Hong Kong, China
T +852 2100 5000

Citrix Online Division

6500 Hollister Avenue
Goleta, CA 93117, USA
T +1 805 690 6400

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