

## CASE STUDY

### 2nd generation Intel® Core™ i3 and i5 processors

Energy/Utilities

Desktop Virtualization



# Meeting burning needs

## Waste and energy company gains immediate return on investment (ROI) with Intel-designed intelligent desktop virtualization

Netherlands-based Afval Energie Bedrijf is a world leader in the sustainable conversion of waste into energy and reusable raw materials. The organization is part of the City of Amsterdam's municipality. To comply with a municipal-wide upgrade to Microsoft Windows 7 it had to create a secure desktop-environment that could be maintained by three people and also fit into the centralized IT structure of the city of Amsterdam. However, because it runs mission-critical bespoke applications, upgrading them to run on a new operating system would exceed its budget limits and slow down considerably the process of future-proofing its IT-environment. To address this it implemented an intelligent virtualized desktop PC solution based on computers powered by 2nd generation Intel® Core™ i3 and i5 processors. As a result, it gained the flexibility to continue daily operations in its production plant and fulfill user needs for better support and better user experience.



"We made an immediate saving that approximates to 10 percent of our budget. This saving also covers the actual cost of the desktop virtualization, so we have realized an immediate ROI, but more important it made us ready for the future but with no disruption of the business. It also made it possible for the IT staff to focus on pro-active support rather than re-active support."

Jan van der Kolk,  
IT Manager  
Afval Energie Bedrijf Bedrijf

### CHALLENGES

- **Windows 7 deployment.** The City of Amsterdam's IT department set new standards which Afval Energie Bedrijf had to comply with. This included a move to standardized desktops with standardized security and technical specifications.
- **Mission-critical applications.** Afval Energie Bedrijf has a large number of mission-critical applications that run on Microsoft Windows XP or industry-specific applications which have not been designed to run on Microsoft Windows 7.
- **Budget buster.** The cost of upgrading its custom built applications to run on Microsoft Windows 7 exceeded Afval Energie's IT budget. It would also would delay the standardization project and increase maintenance time instead of adding value to the business.

### SOLUTIONS

- **Virtualized desktops.** Ordina, an IT systems integrator, recommended that Afval Energie Bedrijf Bedrijf adopt an intelligent, virtualized desktop solution based on rich client PCs powered by Intel® processors
- **Optimized performance.** Afval Energie Bedrijf Bedrijf implemented a virtual desktop solution from Citrix called Citrix XenClient Enterprise\*, specifically developed to provide optimal performance on Intel-powered PCs
- **Virtual containers.** Afval Energie Bedrijf's applications were deployed on Windows XP in a virtual container. Microsoft Windows 7 and standard office applications were deployed on another virtual container on the same PC

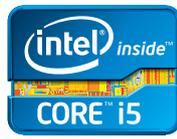
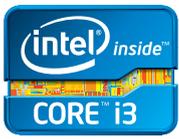
### IMPACT

- **Greater flexibility.** Afval Energie Bedrijf employees retain direct access to its mission-critical applications, while the company also keeps control of its applications and does not have to exceed its IT budget upgrading to Microsoft Windows 7
- **Immediate savings.** The virtualized applications have reduced licensing costs, enabling Afval Energie Bedrijf to recoup the price of the virtualized desktops resulting in an almost immediate ROI

Afval Energie Bedrijf is part of the municipal infrastructure of the City of Amsterdam. It uses innovative techniques to produce electricity that supplies households and industries all over the country. It also uses excess heat generated during waste combustion to provide district heating and hot water.

Afval Energie Bedrijf recycles nearly 99 percent of over 1.4 million tons of processed waste every year—making it the largest single-location waste processor in the world. The company has a large production plant outside Amsterdam. Each day, 600 trucks and a freight train deliver almost 4.5 million kilos of waste. The processing plant runs around the clock.

To manage the waste processes and monitor the production plant, Afval Energie Bedrijf uses a range of custom applications. For example, one application checks the weight of each waste load at delivery, another monitors temperatures within the production plant, and a third measures the amount of energy produced. This information is rendered using graphical interfaces so employees can easily digest the information and respond quickly if required.



## Afval Energie Bedrijf virtualizes 340 desktop PCs to maintain mission-critical operations

### Windows 7 deployment

The City of Amsterdam's central IT department, however, wanted to gain greater control of its assets to make IT management easier and more cost-effective. Upgrading all desktop PCs and laptops to Microsoft Windows 7 was central to this objective.

Afval Energie Bedrijf was contractually bound to comply with these plans. Yet, importantly, it needed to retain control of its mission-critical applications. Many of the applications are designed to run on the Microsoft Windows XP operating system. However, upgrading them to run on Microsoft Windows 7 was, in most cases, beyond Afval Energie Bedrijf's IT budget and it also carried risks.

Jan van der Kolk, IT Manager, Afval Energie Bedrijf, said: "It was going to be very expensive to upgrade the applications, yet central IT wanted to go ahead. We were being asked to move at a speed which was too fast for us, so we needed an alternative solution, one that would give us flexibility."

### Desktop virtualization

Consequently, the company called in Ordina, an IT system integrator and consultancy with expertise in virtual desktop infrastructures. Following an extensive study of Afval Energie Bedrijf's systems and production needs, Ordina recommended a virtualized desktop solution from Citrix. The company leads the client-side desktop virtualization marketplace, often referred to as intelligent desktop virtualization (IDV). It offers an IDV product called

Citrix XenClient Enterprise.

Afval Energie Bedrijf has approximately 350 computers and 400 users. The computers are a combination of HP desktops and laptops powered by a range of Intel processors, including 2nd generation Intel Core i3 and i5 processors.

Citrix XenClient Enterprise was closely developed with Intel. For example, when its IDV strategy was evolving, Intel made its hardware drivers available to ensure exceptional performance and interoperability on virtual desktop infrastructures that feature rich clients powered by Intel processors.

As a result, Citrix XenClient Enterprise is optimized to run computers specifically powered by Intel processor technology and to take advantage of all Intel hardware including graphics, networks, and audio components.

### Virtual containers

Citrix XenClient Enterprise was installed on Afval Energie Bedrijf's 350 desktops and laptops. This permitted the organization to run multiple operating systems in different virtual containers on the computers. The city's IT department ran virtualized versions of Microsoft Windows 7 and standard software such as Microsoft Outlook\* and anti-virus software in one container. The other container ran Afval Energie's core production applications on Microsoft Windows XP.

This IDV solution enabled the city's central IT department to upgrade to Microsoft Windows 7 while permitting Afval Energie to retain control over its mission-critical production applications.

### Spotlight on Afval Energie Bedrijf

Afval Energie Bedrijf, (Waste and Energy Company) is part of the City of Amsterdam. It is a world leader in the sustainable conversion of waste into energy and valuable, reusable raw materials. It uses innovative techniques to produce sustainable energy and reusable materials from waste. The company has more than 300 employees working in four divisions: Waste-to-Energy Plant, Hazardous Waste Depot, Regional Sorting Center, and Waste Collection Points.

### Immediate ROI

Van der Kolk said: "We couldn't afford any downtime; it would have shut the plant down. So it was extremely important that the virtualized desktops were rolled out in as short a time as possible. In the first stage, we had 30 desktop PCs rolled out in within 30 minutes and between 4 p.m. and 2 a.m., 340 PCs had been deployed. Within two weeks of the migration, everything was running normally."

Jan van der Kolk, said: "We gained faster application response time due to the virtualized desktops. Employees can now, in some cases, gain an almost instantaneous response from the applications they use. In turn, this means that processes are more efficient and faster, so overall performance improves. This was also partly due to the support for video that the intelligent virtualized desktop solution provides; ensuring applications that feature graphics capability can run at optimal speeds. And it all works as if it runs locally."

Afval Energie Bedrijf also gained an almost instant ROI due to license savings on the virtualized applications. Van der Kolk said: "We made a saving that approximates to 10 percent of our budget. This saving also covers the actual cost of the desktop virtualization, so we have realized an immediate ROI."

Visit Intel's Technology Provider website at [www.inteltechnologyprovider.com](http://www.inteltechnologyprovider.com)

Find the solution that's right for your organization. Contact your Intel representative, visit Intel's Business Success Stories for IT Managers ([www.intel.co.uk/itcasestudies](http://www.intel.co.uk/itcasestudies)) or explore the Intel.com IT Center ([www.intel.com/itcenter](http://www.intel.com/itcenter)).

Copyright © 2012 Intel Corporation. All rights reserved. Intel, the Intel logo, Intel Core, 2nd generation Core, Intel vPro, and Core vPro inside are trademarks of Intel Corporation in the U.S. and other countries.

This document and the information given are for the convenience of Intel's customer base and are provided "AS IS" WITH NO WARRANTIES WHATSOEVER, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. Receipt or possession of this document does not grant any license to any of the intellectual property described, displayed, or contained herein. Intel® products are not intended for use in medical, lifesaving, life-sustaining, critical control, or safety systems, or in nuclear facility applications.

\*Other names and brands may be claimed as the property of others.

0512/JNW/RLC/XX/PDF

327414-001EN