



## Customer Solution Case Study



## Internet Hosting Company Reduces Server Management Time by 92 Percent

### Overview

**Country or Region:** Belgium

**Industry:** Hosting and application service providers

### Customer Profile

COMBELL is one of the leading Internet hosting companies in the Benelux countries. Founded in 1999, COMBELL provides services, including Web site and server hosting, for 20,000 customers.

### Business Situation

COMBELL wanted to provide its customers with protected, high-performance Web, application, and server hosting that is easy to access and affordable for companies of all sizes.

### Solution

COMBELL tested Windows Server® 2008 in its own organization and with a select group of customers, focusing particularly on the new Terminal Services technologies and Internet Information Services 7.0.

### Benefits

- 92 percent less management time
- Three times faster server provisioning
- Cost savings on third-party software
- Easier remote access configuration
- Improved security

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Frederik Poelman, Technical Director, COMBELL

As a leading Internet hosting company serving the Benelux countries, COMBELL hosts Web sites, applications, and servers, and it registers and manages domain names for more than 20,000 small and midsize customers. The company wanted to offer its customers access to the most advanced and flexible Internet hosting services and support, while containing its own development and administration costs. To do so, COMBELL employees and a subset of its customers tested prerelease versions of the Windows Server® 2008 operating system. The new capabilities in Windows Server 2008 are helping Combell reduce server management time by 92 percent and provision servers three times faster. The solution also helps the company save on third-party software, expedite troubleshooting, simplify remote access, improve security, and provide expanded services for customers.



## Situation

COMBELL GROUP NV, headquartered in Ghent, Belgium, is one of the leading Internet hosting companies in the Benelux (Belgium, the Netherlands, and Luxembourg) countries. Established in 1999, COMBELL provides Web, application, and dedicated server hosting; worldwide domain name registration; and Software as a Service offerings such as e-mail, Microsoft® Office applications, Microsoft Office SharePoint® Server 2007, online backup, and fax services. Its customers are primarily small and midsize organizations that use from 5 to 500 computers. The services COMBELL provides typically fall into two categories: complete turnkey solutions in which COMBELL takes care of all monitoring, maintenance, and updates for a single monthly fee; or co-location hosting in which COMBELL simply houses customers' servers in its data center where they have the benefit of the COMBELL high-speed network bandwidth.

Currently, the firm manages more than 60,000 domain names, more than 15,000 Web sites, and more than 500 server computers in its data center in Brussels, Belgium. In the past, approximately 70 percent of those servers ran on Linux and about 30 percent ran on the Windows Server® operating system. However, between 2005 and 2007, as customer demand for applications such as Microsoft Exchange Server 2007, Microsoft Office SharePoint Server 2007, and Microsoft Dynamics™ CRM increased, the number of servers running Windows Server increased to approximately 50 percent of the total.

COMBELL has grown rapidly in its first eight years. It credits much of its growth to focusing on support, reliability, high performance, cost efficiency, and constant innovation for its Web site, application, and server hosting. "More and more of our

customers are convinced that their applications can be hosted more securely and cost-effectively by us than by deploying them on their own networks," says Frederik Poelman, Technical Director for COMBELL. "To make that a reality for our customers, we need a reliable operating system with several functions that can easily be configured to meet each customer's specific needs. That saves customers the cost of customization and of acquiring additional software to make applications accessible over the Internet."

COMBELL also wanted to continue increasing efficiency as the company grows. It sought to maintain its current high level of service and responsive, 24-hours-a-day support with minimal overhead increases. Providing around-the-clock support sometimes requires support technicians to access the COMBELL network remotely from home. In the past, technicians and some administrative employees at COMBELL accessed the network through a virtual private network (VPN) connection. To provide that access, the IT department had to configure a VPN connection for each employee. Accessing the VPN was often too complicated for the administrative staff and configuring access for each employee put an extra burden on the IT staff.

In keeping with its long history of continuous innovation, COMBELL began to look for additional ways to further increase its efficiency and productivity, so that it could provide even better service and richer Web and application capabilities that customers could easily and securely access.

## Solution

In early 2007, as COMBELL engineers read and heard about the pending release of Windows Server 2008, they wanted to learn more about several new features that

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Gregory Storme, Systems Engineer,  
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would address many of their customers' needs. So, in May 2007, COMBELL began testing prerelease versions of Windows Server 2008. With the help of Microsoft Certified Partner TFE Electronics of Antwerp, Belgium, COMBELL set up two test environments. One was located in COMBELL headquarters in Ghent and the other was located in the company's data center in Brussels. The test environments consisted of 17 virtual machines running Windows Server 2008 on three physical computers running Windows Server 2003. Testing was done on a Dell PowerEdge 860 server computer with Intel Pentium 4 Dual-Core processors, and Dell PowerEdge 1950 and 2950 server computers with Dual-Core Intel Xeon processors.

After testing all aspects of the product in the labs for about three months, COMBELL engineers saw that the new features and functionality in Windows Server 2008 would offer many opportunities for COMBELL to improve its own operations as well as to expand its services to customers. Some of the highlights include:

- **Improvements to failover clustering** that make it easier for COMBELL administrators to set up, manage, troubleshoot, and restore clusters.
- **Windows Deployment Services** that Combell administrators use to perform automated server installations in less than 15 minutes.
- **Terminal Services RemoteApp™ and Terminal Services Web Access**, which COMBELL sales and financial workers use to access and run line-of-business applications from the terminal server through a Web browser and to interact with them as if the applications are installed on the local computer.

- **Terminal Services Gateway**, which support technicians use to connect to internal network resources over the Internet through an encrypted connection without using the VPN.
- **New Web server features** in Internet Information Services 7.0 such as failed request tracing, automated Web server provisioning, the enhanced FTP (File Transfer Protocol) features, and Microsoft ASP.NET 3.5 and FastCGI (Common Gateway Interface) support for the PHP scripting language to reduce management time and enhance the user experience.
- **The Windows® PowerShell™ command-line shell and scripting language**, which engineers use to automate many of the administrative tasks for both the operating system and Windows Server-based applications.

After the internal testing, COMBELL invited approximately 20 customers to join the testing process and introduced them to the test environment in early November 2007. Those participating in the testing included Web site and application hosting providers and dedicated server customers. The number of end users who accessed the test servers ranged from a few hundred on some dedicated servers to a few thousand on some of the Web servers. The customers that agreed to participate were particularly interested in Terminal Services features and Internet Information Services 7.0.

Most of the customers had previously used dedicated servers running Windows Server 2003. However, one customer who had been using Linux tested the FastCGI add-on component to Internet Information Services 7.0 that provides improved support for running PHP scripts on Windows Server 2008. The customer was able to run PHP

scripts on Windows Server 2008 the same as if they were running on Linux.

End users tested finance, human resources, and customer relation management applications. Some of the applications were Microsoft .NET-connected applications, and some were not, but all of them ran easily on the new operating system. "Most of the new features in Windows Server 2008 are backward-compatible with the older software, so we didn't run into compatibility problems," Poelman says.

On the Web hosting side, COMBELL is working with Microsoft Certified Partner implement.com to develop 2,000 Web sites on Windows Server 2008. "We had to create hundreds of FTP Web sites and normal Web sites and enable Microsoft SQL Server® databases," says Poelman. "To handle the volume of sites, we used the automated provisioning services in Internet Information Services 7.0 to deploy new Web sites in just a couple seconds each."

COMBELL also is building a portal system using Microsoft Office SharePoint Server 2007 running on Windows Server 2008, which can host thousands of Web sites on a single server thanks to the increased application throughput in Internet Information Services 7.0.

The firm started deploying Windows Server 2008 in production at the end of December 2007, and it expects to be hosting more than 200 Windows Server 2008-based servers by the end of June 2008.

## Benefits

In testing Windows Server 2008, COMBELL discovered several potential benefits for the company and for its customers. These include the ability to significantly expedite server deployment, dramatically reduce management and troubleshooting time,

and improve remote access while maintaining strong safeguards on the network.

## 92 Percent Reduction in Server Management Time

COMBELL systems engineers use the Windows PowerShell command-line scripting to easily automate a broader group of management tasks. They estimate that this increased automation and other improved administration features in Windows Server 2008 reduces server management time from 15 hours a month for each server to 1 hour a month per server. That timesavings is worth approximately €342,000 (U.S.\$503,562).

"We have a lot of managed servers in our network and there are several scheduled tasks and scripts that we need to run to check operations and perform certain actions. With the Windows PowerShell capability, we can automate many of those scheduled tasks more efficiently, and can easily extend the built-in PowerShell commands to perform even more tasks," says Gregory Storme, Systems Engineer for COMBELL.

COMBELL systems engineers expect to use the time saved to develop new and larger solutions.

## Three Times Faster Server Provisioning

Using Windows Deployment Services, COMBELL has been able to reduce the time required to deploy new servers for its customers by two-thirds. "Previously, it took about 45 minutes to install the operating system on a dedicated server using a slipstream DVD or external deployment software," says Poelman. "Now, with Windows Deployment Services, we can install Windows Server 2008 or Windows Server 2003 in less than 15 minutes."

“Failed request tracing in Internet Information Services 7.0 makes it a lot easier to see just the requests that we’re interested in, with the status codes and other details that we need to debug the site.”

Gregory Storme, Systems Engineer,  
COMBELL

#### **Cost Savings on Third-Party Software**

In the past, provisioning Web sites took so much time that COMBELL invested in provisioning software. “Thanks to the Web provisioning capabilities in Windows Server 2008, we are able to automate almost every action so that we can deploy a Web server in just a few seconds without that third-party software. That saves us about €50,000 (U.S.\$73,267) annually in software,” says Poelman. “With Windows Server 2008, we can implement a complete basic Web hosting solution with just a minor investment from our development team. This will not only save us money, but it will also make us more flexible. We won’t have to contact the software vendor and wait months for them to implement our changes; our own team can easily adjust or add new functions.”

#### **Increased Web Server Capacity**

COMBELL has also found that with the improved throughput capabilities of Internet Information Services 7.0 it can increase the number of customer sites hosted on each server. The firm projects that these improvements will result in at least a 20 percent reduction in the number of servers required for hosting.

#### **Quicker Troubleshooting**

COMBELL also uses the failed tracing request capability in Internet Information Services 7.0 to expedite Web server troubleshooting. If a request to a server fails or takes too long, the administrator can define a failed request tracing rule that captures and logs all trace events for that request as they occur. This means administrators can immediately see events related to only the failed request rather than having to search through large log files that contain every request.

“Before, when a client’s Web site wasn’t performing well, the old debugging tools

provided a lot of output,” says Storme. “With 500 Web sites running, it was nearly impossible to find the relevant error information. Failed request tracing in Internet Information Services 7.0 makes it a lot easier to see just the requests that we’re interested in, with the status codes and other details that we need to debug the site or the application.”

#### **Faster Remote Access Configuration**

Both COMBELL employees and customers have found it much easier to access Web sites and applications using new or enhanced Terminal Services capabilities. “In the past, we had people from finance and sales who wanted to work from home but found it too complicated to access the network through a VPN,” says Poelman. With the RemoteApp and Web Access features of Terminal Services, those users can access the IP address or URL through their browsers, enter their user name and password, and select the applications they want to use.

Once in the application, users work with it in the same way they would if it were running on the local computer. “I would estimate that with Windows Server 2008 Terminal Services we will cut in half the time required to add and configure new users on the VPN,” says Poelman. “And, we can control access to resources in our network and manage and monitor connections much more easily than with the VPN solution.”

#### **Improved Security**

For its own operations, COMBELL runs the Active Directory® Domain Services, Dynamic Host Configuration Protocol (DHCP), and Domain Name System (DNS) server roles using the Server Core installation option of Windows Server 2008. This option installs the minimum files necessary for those specific server roles. It

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[www.combell.com/en](http://www.combell.com/en)

reduces the attack surface, which enhances security on those servers and reduces update management because there are fewer files to update. It also reduces disk space requirements.

### Expanded Capabilities

As a Web hosting provider, COMBELL is looking forward to meeting its customers' requests for the latest version of ASP.NET. In addition, COMBELL can take advantage of the FastCGI add-on in Internet Information Services 7.0 to offer customers who use the PHP framework the option of running on Windows Server 2008. "In the past, if a customer asked for PHP hosting, we offered them Linux; if they asked for ASP or ASP.NET hosting, we offered Windows Server," says Poelman. "Now we have a bunch of test customers running PHP on Internet Information Services 7.0 and it is working very well for them. The more customer requirements we can support with one operating system, the more experts we can have developing new solutions on that operating system."

## Windows Server 2008

Windows Server 2008, with built-in Web and virtualization technologies, enables you to increase the reliability and flexibility of your server infrastructure. New virtualization tools, Web resources, and security enhancements help you save time, reduce costs, and provide a platform for a dynamic and optimized datacenter. Powerful new tools like IIS 7.0, Server Manager, and Windows PowerShell, allow you to have more control over your servers and streamline Web, configuration, and management tasks. Advanced security and reliability enhancements like Network Access Protection and the Read-Only Domain Controller option for Active Directory Domain Services harden the operating system and help protect your server environment to ensure you have a solid foundation on which to build your business.

For more information, go to:

[www.microsoft.com/windowsserver2008](http://www.microsoft.com/windowsserver2008)

### Software and Services

- Microsoft Server Product Portfolio
  - Windows Server 2008 Enterprise
- Microsoft Office
  - Microsoft Office SharePoint Server 2007
- Technologies
  - Internet Information Services 7.0
  - Terminal Services
  - Windows Deployment Services
  - Windows PowerShell

### Hardware

- Dell PowerEdge 860 with Intel Pentium 4 Dual-Core processors
- Dell PowerEdge 1950 with Dual-Core Intel Xeon processors
- Dell PowerEdge 2950 with Dual-Core Intel Xeon processors

### Partners

- TFE Electronics
- implement.com