
WINDOWS SERVER 2012 REFRESH: HOW TO MANAGE THE MIGRATION

- A guide to overcoming the challenges during the transition from Windows Server 2003 to Windows Server 2012

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“Let’s face it. It’s the applications you’re running that are driving use of Windows Server 2003. Those are the things that are the beginning and end of what the Windows migration is all about.”

AL GILLIN

Program Vice President for Servers and System Software at IDC

INTRODUCTION

With support ending for Windows Server 2003 in July 2015, companies need to ensure that their servers will adequately support the latest server OS and critical applications. By upgrading to [Windows Server 2012](#), companies can increase their parallel computing capabilities and gain improved control over power consumption.



Upgrading to the latest version of Windows Server brings the opportunity for businesses to lower their operating costs. “It’s an expensive proposition to continue supporting those old operating systems,” said Al Gillin, program vice president for servers and system software at IDC.

Running one operating system rather than varieties of Server 2008, 2008 R2 and Server 2003R2 will make IT data centers more efficient. “If you have four different versions in place like that, that makes it more difficult for you to run your infrastructure,” Gillin said.

When preparing for a Windows Server migration, companies should test all applications using a software tool such as Dell ChangeBASE before going live in the new OS. [Migrating](#) your applications from Windows Server 2003 to 2012 and testing applications properly takes about 200 days. Although Microsoft issued a last-minute patch for Windows XP after official support ended, the company won’t be doing the same for Windows Server 2003, according to Shai Ofek, senior program manager for enterprise cloud at Microsoft.

Here we provide some insight on what you need to know when upgrading Windows Server to the latest version.

PERFORMING AN APPLICATION INVENTORY

The first step in a [Windows Server migration](#) is to perform an audit of which servers are running which operating systems. Then companies must determine which applications are running on which servers. “Unlike client PCs that might be running multiple applications, in the server world it’s one application per server,” said John Fruehe, senior analyst at Moor Insights & Strategy. “In those environments it becomes a lot easier when you know which servers are running on Windows.”

Because some applications may be eight or nine years old, companies should check if the software will run on Windows Server 2012. “Any migration should start with an analysis of all applications, processes and users requiring access to ensure that appropriate resources and applications will be available when the migration takes place,” said Michael Tweddle, executive director of product management at [Dell Software](#). “It’s imperative to identify workflows, mailboxes, programs and/or other pieces of infrastructure that could be impacted before making the move.”

When deciding which applications to migrate first, prioritize those used by a larger number of employees and those that are customer-facing. Internal apps used by a smaller number of people can be placed lower on the list, said Gillin.



PERFORMING AN APPLICATION INVENTORY

When you perform inventory, you want to identify the proper target for various applications, advised Greg Davoll, general manager for the specialized markets division at Dell Software. Consulting services such as Dell [ZeroIMPACT](#) can guide companies through the migration. ZeroIMPACT helps transition companies from old IT environments with minimal downtime and less risk.

A single server could hold 30 to 50 applications that must be compatible with Windows Server 2012, but it's no easy task to convert them to the new operating system. "You can't just pick up and drop Windows Server 2003 applications in Windows Server 2012," Gillin said. "If it was that simple, we probably wouldn't be having the problem with applications that have not been migrated."

If the application is in a niche industry, you may have to go back to the independent software vendor for an updated version of the software. "You could run into a problem if the ISV [independent software vendor] has not upgraded the application or has discontinued support," Gillin said. If an ISV has discontinued support for an application, companies won't be able to access the source code needed to migrate the software. This will leave customers in a "dead-end situation," he said.

"Companies often plunge into major migrations without fully reviewing the existing environment—understand what you have, what you need to migrate and what opportunities you have for cleanup."

MICHAEL TWEDDLE

Executive Director of Product Management at Dell Software

PERFORMING AN APPLICATION INVENTORY

“A manufacturing automation application from a small publisher that hasn’t been updated in a long time may be more of an issue,” said John Fruehe, senior analyst at Moor Insights & Strategy. “The larger the application, the more likely it won’t run into problems. Applications that may be difficult to migrate are those that are connected to other software or peripherals,” Fruehe said.

5 ESSENTIAL STEPS WHEN MIGRATING TO WINDOWS SERVER 2012

1. Establish a destination

Know what your ideal end state is when migrating your applications to Windows Server 2012.

2. Perform an inventory of your applications

Gain an understanding of the applications you need to upgrade and their target destinations in Windows Server 2012.

3. Triage your applications

Sort applications and services into buckets and determine the amount of investment they will require to support Windows Server 2012.

4. Examine a range of destination options

Consider virtualization during migration as well as moving applications to Office 365 from Exchange and deploying a platform as a service (PaaS).

5. Consider security and compliance risk

Track each application’s risk level. If software is customer-facing with low risk, move to a PaaS or infrastructure as service (IaaS).

Source: Al Gillin, program vice president for servers and system software at IDC

UPGRADING ACTIVE DIRECTORY

Migrating to Windows Server 2012 R2 provides an opportunity to restructure your Active Directory. Many companies have outdated versions of Active Directory, a database that handles a large number of read and search operations and stores data from printer queues, user contacts and network/computer configuration data.

Transitioning an old version of Active Directory as you upgrade to a new operating system or new infrastructure can bring security and compliance issues, said Jim Rapoza, senior research analyst and editorial director at Aberdeen Group.

“In addition to just an application inventory, it’s important to understand which of those apps are talking to infrastructure services like Active Directory,” said Dell’s Tweddle. “Having this picture will help eliminate any gotchas as users, groups and resources are migrated from the source to target environment.”

Microsoft has updated Active Directory with new security features and improved options for virtualizing domain controllers. “These innovations are compelling organizations to also modernize Active Directory,” Tweddle said.



CONSIDERING A HARDWARE REFRESH

While most experts agree on the software elements of Windows Server 2012 migration, opinions are mixed on whether a server upgrade is necessary as well.

"This is not about a hardware refresh specifically," said IDC's Gillin. "This is about upgrading your software."



However, an upgrade of a server's operating system could be a prudent time to reevaluate an entire IT infrastructure. "As you look at this transition, you look at what are the adjacent technologies to consider for transition," Fruehe said.

When considering whether to upgrade your server, look at the level of energy efficiency of the server and whether it is still under warranty. "Those [factors] are going to dictate whether to change the underlying hardware platform at the same time," Fruehe said.

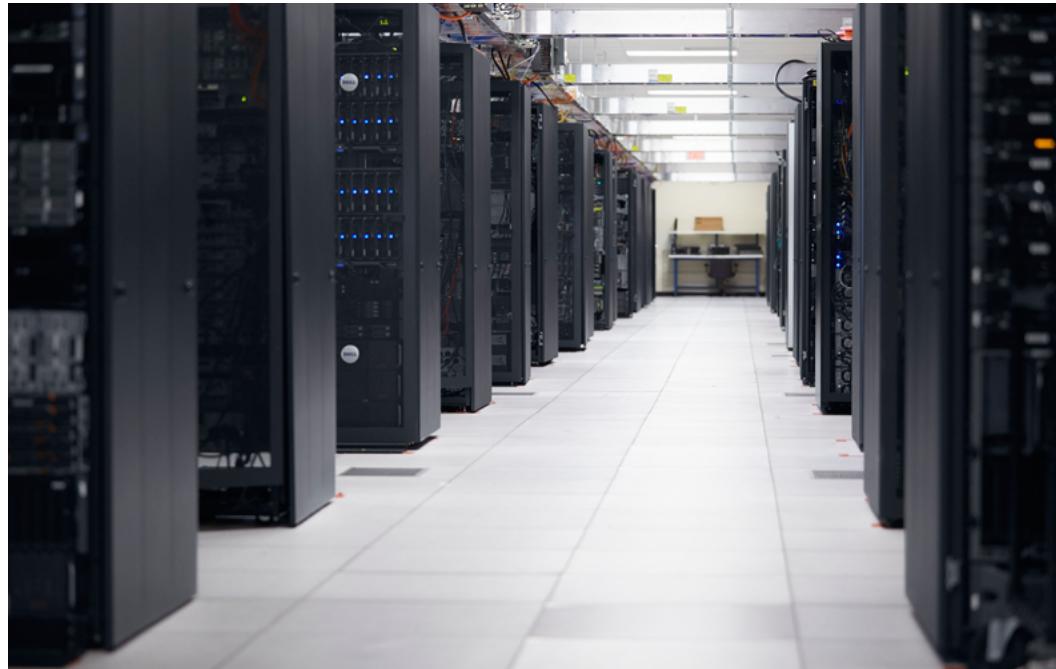
When a company migrates to Windows Server 2012, it should upgrade the hardware if it will offer advantages such as lower power and new manageability features, according to Fruehe. "If they have the right benefit, then making that transition should be fairly easy," he said.

CONSIDERING A HARDWARE REFRESH

Because Windows Server 2012 R2 runs only on x64 processors, you'll need to upgrade old 32-bit x86 hardware. Companies remained on Windows Server 2003 for a long time because it was the last 32-bit OS for Microsoft and their applications weren't compatible with a 64-bit environment, Rapoza noted.

New servers such as [Dell's PowerEdge line](#) feature Intel Xeon processors with 14 and 16 cores per CPU. The Xeon processors bring more virtualization density, greater power efficiency and faster memory support. By moving to Windows Server 2012 and upgrading to a server running Intel Xeon E5 processors, companies can gain up to 3.4 times higher performance. This combination can bring increased energy efficiency across all load levels.

"If you upgrade to a new server, it's like having eight of the old servers you used to have," said Rapoza. "You have higher availability because everything is redundant."



CONSIDERING A HARDWARE REFRESH

The choices consist of refreshing your server, moving to the cloud or virtualizing on another server.

For companies that do need to upgrade their servers as well as the OS, Dell offers a trade-up program in partnership with Microsoft and Intel that brings rebates on Windows Server when users trade in old servers. In addition, the [Intel Xeon Processor-Based Server Refresh Savings Calculator](#) allows companies to determine how much they can save by refreshing a server and processor.

5 TOOLS FOR EASING THE MIGRATION PAIN

1. [Microsoft Assessment and Planning \(MAP\) Toolkit](#)
MAP lets organizations analyze data on servers to assess the IT environment's readiness for the migration to Windows Server 2012.
2. [Enterprise Reporter](#)
This tool lets organizations report on configurations for Active Directory, Windows Server and SQL Server. It also provides analysis before and after the migration.
3. [Migration Manager for Active Directory](#)
Migration Manager lets users maintain access to servers and printers when transitioning to the new AD. It also automates parallel processing.
4. [ChangeBASE](#)
ChangeBASE lets IT managers test applications for compatibility with Windows Server 2012. It also accelerates patch updates in the new OS.
5. [SecureCopy](#)
This automated application provides a way to securely move data between servers and enables migrations to occur in phases.

A MOVE TO VIRTUALIZATION

When moving to the next version of Windows Server, companies can virtualize a server using a platform such as [VMware's vSphere](#) or [Microsoft HyperV](#), which is part of Windows Server 2012.

One feature of Hyper-V allows companies to run a Windows print server as a virtual machine instead of a physical machine.

Some applications will work better in a virtual environment while others are best suited for a physical instance. The cloud provides opportunities that didn't exist when Windows Server 2003 came out, noted Rapoza. "Making this move to new hardware and software opens up some new capabilities to get the most out of the data center," he said.

During the migration to Windows Server 2012, companies can use virtualization during the testing phase to ease the transition. "You get all your testing out of the way in that phase" using vSphere or Hyper-V, Rapoza said.



CERTIFICATION, COMPLIANCE AND SECURITY

Companies should hold off on migration until they've been able to confirm that third-party applications they run are certified for Windows Server 2012 R2. Ensuring compliance with regulations is also a critical part of a Windows Server migration.



"Many compliance and security policies are around access—to ensure organizations are meeting any internal or regulatory compliance policies, the right people should have access to the right information before, during and after the migration," Tweddle said. "Compliance goes hand in hand with security, and it is important to have a plan for during and after the migration," he added.

In health care, companies must maintain compliance with the Health Insurance Portability and Accountability Act (HIPAA), and the [payment card industry](#) must adhere to Payment Card Industry Data Security Standard (PCI DSS) requirements.

CERTIFICATION, COMPLIANCE AND SECURITY

"If you have an old operating system that is out of mainstream support, then by definition you're not in compliance with the regulatory concerns you'll have in many vertical industries," Gillin said. "That's a nonstarter for people in credit card processing, banking and health care, where you have pretty strict regulations on keeping software up to date."

Upgrading your operating system is a time to make sure all security measures are in place. "You don't want to go put new locks on your house and leave the back door without a lock," Fruehe said. "If you're making an update, you want to make sure you're not leaving a security hole somewhere and not following procedures you've established."

In November 2014, the U.S. Department of Homeland Security issued a [cybersecurity alert](#) on servers running Windows 2003 Server urging users to upgrade to a newer OS.

"Computer systems running unsupported software are exposed to an elevated risk to cybersecurity dangers, such as malicious attacks or electronic data loss," the US-CERT alert stated.

"You don't want to go put new locks on your house and leave the back door without a lock."

JOHN FRUEHE

Senior Analyst at
Moor Insights & Strategy

CONCLUSION

With support for Windows Server 2003 ending, transitioning to Server 2012 is clearly a must for companies. While migration will be an adjustment for organizations relying on niche applications that are 10 years old, the costs of not upgrading to Server 2012 could prove fatal.

While Windows Server migration is an easy decision to make, businesses should also consider whether an upgrade of Active Directory or an entire IT infrastructure refresh makes sense during this transition.

Upgrading your server software should be a priority. Companies do not want to be left behind when Microsoft ends support for Windows Server 2003 in 2015.

