

# Windows Server 2012 – Are You Ready?

Ensure a successful transition to Windows Server 2012 R2 from Windows Server 2003 with Dell Software

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## Abstract

With the release of Microsoft Windows Server 2012 R2, many organizations have started to evaluate the benefits and challenges of making the transition to the new platform. This is especially true for those still running Windows Server 2003 — Microsoft is discontinuing support for Windows Server 2003 in July 2015, so now is the perfect time to start planning your move and avoid possible server management, performance, security and compliance issues.

This white paper will explore the new features and benefits of Windows Server 2012 R2, as well as key considerations for moving from legacy platforms. You'll also learn how Dell Software can help you prepare for the move, migrate content efficiently and effectively manage your new environment.

## Introduction

### What's new in Window Server 2012 R2?

Windows Server 2012 R2 offers a wealth of new features and enhancements, including improvements in all of the following areas:

- Server virtualization
- Storage
- Networking
- Server management and automation
- Web and application platform
- Access and information protection
- Virtual desktop infrastructure (VDI)

## Microsoft will end support for Windows Server 2003 in July 2015.

Let's look at just a few of the most valuable new features.

### Dynamic Access Control

Dynamic Access Control provides a more flexible and granular way to assign permissions to Windows file servers. In the past, access was typically based on group membership — if you are a member of a particular group, you get access to certain data. Dynamic Access Control enables much more granular control over access, based on user attributes in Active Directory (AD). For example, you can grant access to the marketing folder on your file server to all users who have "marketing" as their job title in Active Directory. If a user moves from marketing to sales and his or her job title is changed appropriately in Active Directory, then the user will no longer have access to the marketing folder — access is controlled dynamically.

It's important to recognize that Dynamic Access Control requires good Active Directory management — the information in AD must be accurate. By accidentally assigning an incorrect job title, you can inadvertently grant them access to information they shouldn't be accessing.

### Work folders

Work folders are very similar to Dropbox and they are another great new feature in Windows Server 2012 R2. A user can have a folder on his or her desktop that is synchronized to a Windows server behind the scenes and acts very much like Dropbox. For example, if you are traveling, you will still be able to access your work folders using the Internet. Currently, the work folders feature supports only Windows 8 clients, but Microsoft plans to expand support to iOS and Android devices.

### Workplace Join

More organizations are adopting bring your own device (BYOD) initiatives that enable employees to use their smartphones and tablets to access

corporate resources. Windows Server 2012 R2 supports BYOD with Workplace Join, which enables users to connect personal devices to Active Directory. For example, you can essentially join an iPad or other tablet to Active Directory as a trusted device so you can use the device to access corporate resources on your network.

### Windows Server 2003 end of support: July 2015

As we have seen, Windows Server 2012 R2 offers a variety of useful features that make upgrading an attractive idea for any organization. But the case for upgrading now is particularly compelling for organizations still running Windows Server 2003.

There are many reasons why you might still be using Windows Server 2003. It may be working quite well for your organization and there may have been no business drivers pushing you to move to newer versions over the years. You may just be waiting until all of your critical third-party applications are certified to run properly on Windows Server 2012 R2.

### Windows Server 2003 has been winding down for years.

Whatever your reasons for still using Windows Server 2003, time is running out: Microsoft will end support for Windows Server 2003 in July 2015.

Consider this for the Windows Server 2003:

- The last Service Pack was issued more than six years ago.
- Regular or "mainstream" support ended three years ago.
- The product is now on "extended support."
- All support ends in July 2015.

For more information on Microsoft's support policy for Windows Server 2003, check out the [Microsoft Product Lifecycle Search tool](http://support.microsoft.com/lifecycle/search) at <http://support.microsoft.com/lifecycle/search>.

## What end of support means

When a product reaches end of support, Microsoft no longer provides automatic fixes, updates or online technical assistance. For instance, after July 2015, you will no longer receive security updates for Windows Server 2003 ("patch Tuesdays") that help protect your systems from harmful viruses, spyware and other malicious software that result in loss of proprietary information or other security breaches, or even bring down your system. And if you have an issue or a security concern and you call Microsoft for help, you will have to pay to get the problem resolved.

This end of support is not a new policy for Microsoft. For example, end of support for Windows XP is scheduled for April 2014. For more information about end of support for Microsoft products, read Microsoft's description of the [Microsoft Support Lifecycle policy](#).

## Benefits of upgrading

If the impending end-of-support date isn't reason enough, here are other reasons any organization still running Windows Server 2003 should start planning to upgrade to Windows Server 2012 R2:

- **New features** — The new features discussed earlier will poise your organization to take advantage of new opportunities.
- **Performance** — Windows Server 2012 R2 offers much better performance than Server 2003.
- **Cost** — After the end-of-support date, Windows Server 2003 will cost more to operate. In addition to the cost of any support calls to Microsoft, your organization could also incur capital expenses for tools to supplement a server that no longer gets security updates. Purchasing Windows Server 2012 R2 licenses is almost guaranteed to be less expensive than trying to maintain a Windows Server 2003 environment.
- **Security** — When support ends in 2015, bug fixes will be at a cost to the customer. Not getting timely bug fixes could put your organization at increased risk for security

breaches — especially since hackers will know that any security holes will not be patched.

- **Compliance** — To meet legal and regulatory requirements, many organizations will have to pour resources into monitoring and isolating any servers that run Windows Server 2003. Moreover, audits of systems running outdated software can be pricey, often costing more than the licenses for the newer software.

## Migration considerations

Of course, moving to Windows Server 2012 from any earlier version or other server platform requires careful planning. You'll want to take a careful look at your existing infrastructure and consider the organization's future needs so you can establish a Windows Server 2012 environment that will enable growth, deliver flexibility and ensure security and compliance.

## How can you improve security and compliance?

To help ensure a secure and compliant Windows Server 2012 R2 environment, organizations are wise to assess and clean up their current environment before the migration. In particular, over the years, as employees have moved from position to position within the organization, your Active Directory may have become inaccurate. As explained earlier, Server 2012's Dynamic Access Control depends on accurate data to deliver proper access. Therefore, you'll want to make sure that your Active Directory reflects each employee's current job function and that inactive identities are deleted.

## Is server virtualization a good option?

Many organizations running Windows Server 2003 use only physical machines. Migrating to Windows Server 2012 R2 can be an opportunity to take advantage of server virtualization. Using Microsoft Hyper-V, which is a part of Server 2012, you can, for example, run a Windows print server as a virtual machine instead of as a physical machine, which offers more flexibility. You'll want to assess

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By ensuring that users have the same access to resources after the migration, Migration Manager promotes security and compliance in the new Windows Server 2012 environment.

the performance and utilization of your current Windows Server machines and decide whether it makes sense to virtualize them in the Windows Server 2012 R2 environment.

#### Do you need a hardware refresh?

As you explore server virtualization, also assess whether your current physical machines meet the hardware requirements for Server 2012; Microsoft has changed its hardware requirements over the years in order to dramatically improve performance. In particular, Windows Server 2012 R2 runs only on x64 processors, so old 32-bit (x86) hardware will not suffice.

#### How can you ensure application compatibility?

As mentioned earlier, some organizations are holding off on migration until the third-party applications they run are certified to work on Windows Server 2012 R2. You will also want to test all critical in-house applications to make sure they will work properly in the new environment.

#### Do you need AD restructuring?

Many organizations first deployed Active Directory in Windows Server back in 1999 or 2000, and the AD topology still looks pretty much the same. More than likely, however, your organization's business model and needs have changed quite a bit. Migration to Windows Server 2012 R2 is an opportunity to restructure your AD to better meet your current and future needs. Consider how many domains you now need, and how many forests. You may find you want to consolidate some forests or stand up new parts of the infrastructure for remote offices that didn't exist when you originally deployed Active Directory.

#### How Dell can help

Dell Software offers solutions that will help you plan and execute an efficient move to Windows Server 2012 R2, as well as effectively secure and manage your new environment.

## Preparation

- **Assessing your current environment**
  - *Enterprise Reporter* provides a comprehensive pre-migration assessment of your current infrastructure, including Active Directory, Windows Server and also SQL Server. For example, you can report on the number of accounts in your Active Directory and see which ones are inactive or disabled. Similarly, you can easily learn how many groups you have, whether there are any duplicate groups, and whether there are empty groups you may not need to migrate. As we saw earlier, understanding your current environment and cleaning it up before migration will make Windows Server 2012 R2 more secure and easier to manage.
- **Application compatibility testing** — *ChangeBASE* performs compatibility testing and reports on which applications will work with Windows Server 2012 R2 and which will not. You can even remediate many problems within ChangeBASE.
- **Discover Active Directory-based and LDAP queries** — *ChangeAuditor for Active Directory Queries* allows for discovery of applications that are talking to Windows Server 2003 domain controllers so that you can fix or redirect them to the new Windows Server 2012 R2 domain controllers.
- **Virtualize data between Windows Server 2003 and 2012** — *Quick Connect Virtual Directory Server* enables applications talking to Windows Server 2003 to still function even after the migration to Windows Server 2012. You can easily integrate new applications into your existing identity infrastructure without having to alter directory information — your data remains in its original place and format.

## Migration, consolidation and restructuring

- **Migrating from Windows Server 2003 to 2012** — *Migration Manager for Active Directory* will facilitate your move from Windows Server 2003 to Server 2012, and can even restructure your AD as you migrate. Moreover, Migration Manager ensures zero impact on your users by providing seamless coexistence throughout the migration — both migrated and not-

yet-migrated users maintain proper access to network resources, such as printers, SQL servers and SharePoint sites, throughout the process. By ensuring that users have the same access to resources after the migration, Migration Manager promotes security and compliance in the new Windows Server 2012 R2 environment.

- **Migrating Windows Server data** — **Secure Copy** facilitates the movement of data from Windows Server 2003 file servers to Windows Server 2012 R2, restructuring it if desired. All security and access points to the data are maintained as the data is moved. Robust reporting tools make this the perfect tool for planning and verifying a successful Windows Server 2012 data migration.
- **Migrating from Novell eDirectory to Microsoft Active Directory** — **NDS Migrator** helps organizations transition from Novell eDirectory to Windows Server 2012 R2 and Active Directory. In addition to the directory, the tool also migrates all data that resides within Novell and re-permissions it to users' new Active Directory identities as it moves the data.

## Recovery

- **Recovering Active Directory data** — Active Directory is critical to business operations, so organizations need to be able to quickly recover individual items that have been accidentally or incorrectly changed or deleted. **Recovery Manager for Active Directory** enables that granular recovery. For example, if a user or a group was accidentally deleted or a Group Policy object (GPO) was changed incorrectly, **Recovery Manager for Active Directory** can quickly compare the current, live state of Active Directory to a backup, report on the differences, and restore the object that was changed.
- **Disaster recovery** — In addition to granular recovery, organizations also need disaster recovery. If you lose a domain or an entire forest gets corrupted, **Recovery Manager for Active Directory Forest Edition** can recover it quickly and easily.

## Security and compliance

- **Change control and auditing** — **Change Auditor for Active Directory** gives

you a complete audit trail of anything that has been changed in Active Directory, including all five "Ws": who made the change, what the change was, what the before and after values were, where the change occurred, what workstation the change came from. This granular insight is invaluable for troubleshooting. For example, if you're having issues with replication and you call Microsoft, the first thing they're going to ask is, "what has changed?" With **Change Auditor**, you'll know exactly how to respond. Moreover, **Change Auditor** can prevent changes in the first place. For example, you can disallow deletion of important organizational units (OUs) and modification of Group Policy settings.

- **Access control** — **ActiveRoles Server** helps ensure security and compliance by enabling you to control access through delegation using a least privilege model. You can generate and strictly enforce access rules based on defined administrative policies and permissions; for example, you can specify who can modify group membership or change Group Policy. **ActiveRoles Server** also automates the creation of users, groups and mailboxes, and automatically changes or removes access rights based on role changes.
- **Centralized management of permissions** — **Security Explorer** enhances the management of Dynamic Access Control by enabling administrators to add, remove, modify, back up, restore, copy and paste permissions that include conditional expressions — all from a single console. You can make targeted or bulk changes to server permissions and take advantage of enhanced DAC management features like: grant, revoke, modify and clone permissions; search for permissions; recover misapplied permissions; and report on permissions.
- **Monitoring of user activity** — **InTrust** enables you to securely collect, store, report and alert on event log data to ensure compliance with external regulations, internal policies and security best practices. **InTrust** delivers insight into user activity by auditing user access to critical systems from logon to logoff. It also allows you to detect inappropriate or suspicious access-related events in real time. For example,

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InTrust can learn that a certain user typically logs on at a certain time from a certain location, and alert you if a logon attempt is made from that account from a distant location or at an unusual time, which could be a security threat.

## Management

- **Active Directory management** — Group Policy can be a great way to control and lock down your infrastructure, but if not properly managed, GPOs can also cause a lot of damage. For example, if you have a GPO that defines proxy settings for accessing the Internet but it is configured improperly, users could have problems accessing resources they need. **GPOADmin**, automates Group Policy management tasks and provides a workflow that ensures changes are checked in and approved before GPOs are put into production, which reduces management effort and improves security. You can also compare GPO versions over time to confirm the consistency of your GPO settings.
- **Performance monitoring and issue resolution** — **Spotlight™ on Active Directory Pack** provides an intuitive, graphical representation of your environment so you can spot and resolve emerging issues quickly. You can see in real time how Active Directory is working and what resources it is consuming on the machine, and Spotlight is so easy to use that even first-level administrators can help diagnose the root cause of Active Directory problems.
- **Mobile management** — **Mobile IT** enables users to access applications from a broad range of mobile devices, including Android, Apple iOS, Windows Phone, Windows 8 and Amazon Kindle. Mobile IT is integrated with several Dell solutions, including three of the products described above — **ChangeAuditor**, **Recovery Manager** for Active Directory and **GPOADmin** — so you can effectively manage and secure Active Directory whether you're in your office or not.

## Conclusion

Windows Server 2012 R2 has a lot to offer to any organization, but starting to plan a migration is particularly important for those running Windows Server 2003. Avoiding the capital expenses associated with not upgrading before Server 2003 end-of-life alone can pay for your Server 2012 licensing costs, but you'll also benefit from Server 2012's improved security and compliance, performance and feature set.

With solutions from Dell Software, you can start preparing for your migration today, whether you are running Windows Server 2003, a more recent version of Windows Server or Novell eDirectory. Dell also has the tools you need to effectively manage your new Server 2012 environment, including tools for recovery, security and compliance and everyday management.

## About the author

With more than 16 years of experience working in all areas of Windows management and compliance, Michael Tweddle is the senior director of product management for Dell Software's Windows Server management. He is responsible for product direction, strategy and go-to-market activities for these solutions. He also has many years of experience managing architecture specialists in various Windows management areas at Quest Software (now part of Dell). Prior to Quest Software, Michael worked for Exxon Mobil and Anadarko Petroleum. He earned a degree in management information systems from Texas Tech University, and a master's degree in finance from St. Thomas University.



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