

The Move to Exchange 2013: Migraine or Migration?

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INTRODUCTION

Migration of your most precious business asset, that which is mission-critical for the success of the company on so many levels—your Exchange messaging solution—is not something to be taken lightly.

Some call it migrating, or upgrading or transitioning with a period of coexistence, but regardless of the terminology used, the same thing is being accomplished. The move from one flavor of Exchange over to another, the consolidation of multiple Exchange environments, and the transition from a legacy platform to the newest version of Exchange all require adequate preparation. The project requires time to inventory what you currently have, including mobile devices, versions of Outlook, mailbox sizes, user profiles and more. It involves decisions regarding what hardware is required, virtualization assessments, high availability, and disaster recovery concerns. It requires tools from Microsoft and/or third parties to make the process easier or even possible. And, depending on the complexity of your environment and the amount of time your team can invest in this move, it may even require consultation and assistance from migration experts.

It was April of 1993, nearly 20 years ago, when Microsoft planned a move off of their internal XENIX-based messaging system to their home-grown Exchange Server solution, and version 4.0 was released to the public in April of 1996. Several versions passed until we saw Exchange Server 5.5, which was released to the public in November 1997. Many in IT fondly recall the days of Exchange 5.5, and they've seen the product evolve with each release and each service pack from 2000 to 2003 to 2007 to 2010 and now to 2013. Architectural changes, features added (and removed), the ability to virtualize—all of these elements have brought Exchange to its latest build.

With the release of Exchange 2013, the question on everyone's mind is, What features does this new version bring to the table that would make the case for a migration from my existing environment? And once IT makes that decision and upper management (i.e., decision

makers, the check-writers) approves, how do we go about ensuring that this migration goes smoothly? And note, much of that will depend on which legacy flavor of Exchange or other email system is running in your environment.

We'll start by reviewing the feature enhancements.

NEW FEATURES IN EXCHANGE 2013

Here are the major new features and functionality that you will see in Exchange 2013 and that you should take into consideration when making the decision about whether to migrate. It's important to note from the beginning that just because Exchange has a new "feature," this doesn't necessarily mean that feature is one you'll regard as a positive change from previous versions of Exchange.

Exchange Administration Center (EAC)

An example of a new feature that may be seen as a negative in the pros and cons of migrating to Exchange 2013 is the Exchange Administration Center (EAC). The new Metro UI has been touted as more intuitive and the new layout is meant to unify your management tools between on-premises and hybrid deployments. But if you are used to working with an installed management tool like the Exchange Management Console (EMC), then this new web-based version, shown in **Figure 1**, may feel clunky and unfriendly. In addition, although the

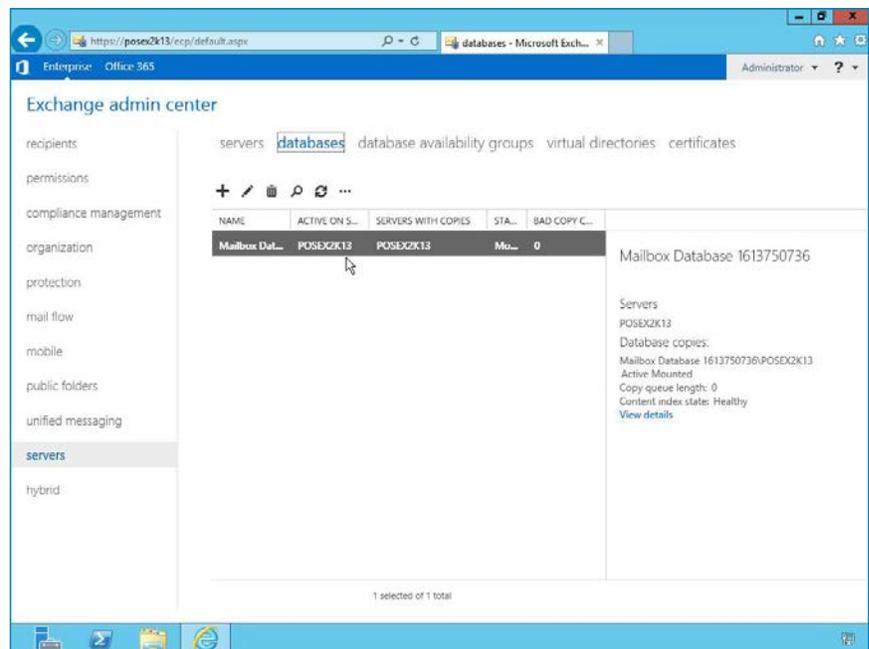


Figure 1: The new Exchange Administration Center (EAC)

Exchange Management Shell (EMS) is still available for PowerShell management, both the EMC and the Exchange Control Panel (ECP) have been dropped in the new version.

Server Roles

Exchange architecture has changed a bit with this new release. In Exchange 2007 and 2010, we had four internal server roles (Mailbox, Client Access, Hub Transport and Unified Messaging) and one external or perimeter-based role (Edge Transport). What we see with Exchange 2013, though, is a two internal role design that is somewhat reminiscent of the front-end/back-end deployment options we had with Exchange 2003. The two roles remaining, Mailbox and Client Access (shown in **Figure 2** during the install selection process), are a combination of the four roles from 2007/2010. The Mailbox role has pulled in the Unified Messaging role and some of the Hub Transport services, and other services have moved over to the Client Access role. As for the perimeter network and the Edge Transport role, for now Microsoft is encouraging the continued use of either the Edge Transport server running Exchange 2010 or a hosted protection solution.

Now where this adjustment may be really interesting is for those organizations that have server sprawl in their Exchange deployments. In recent years, the Exchange Team has recommended installing multiple server roles on one system, but some organizations have missed that shift and may have deployed individual roles per server for better performance, depending on their organizational needs at the time they deployed. Consolidating roles may reduce the number of servers without reducing performance of your Exchange environment.

Namespaces

Along with the server role options being reduced, we also see some adjustments in the number of namespaces required for your deployments. With Exchange 2010 designed for site resiliency, you might have up to eight different namespaces; with 2013, the need has been reduced to two: one for auto-discover and one for client protocols. Depending on your setup and coexistence needs you may also need a legacy hostname and possibly

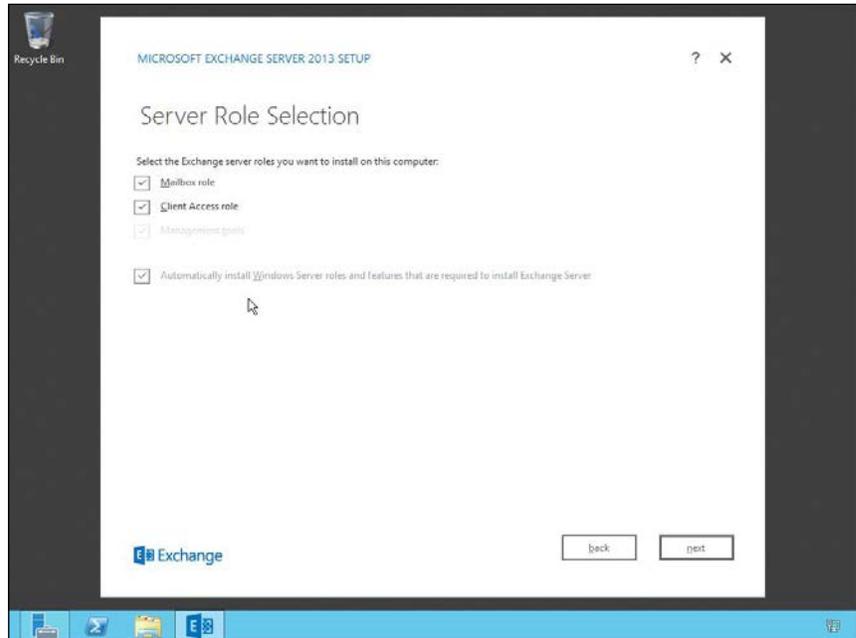


Figure 2: Choosing server roles has become easier with only two to choose from

an SMTP namespace, but the namespace reduction is a nice adjustment.

The value here is a reduction in the administrative stress and overhead to the deployment and management of the Exchange environment that currently comes with the namespace complexity. The reduction in complexity also means less concern over the number of namespaces you need to have certificates for.

Client Connectivity

Client connectivity has changed as well, with RPC no longer supported for direct access (i.e., MAPI is dead). All Outlook client connectivity, whether it is in-house or elsewhere, will be done through RPC over HTTP, which is also known as Outlook Anywhere.

Along with this change is the adjustment that Outlook clients will no longer use the server FQDN to connect to Exchange but will now connect using the mailbox GUID, the @ symbol and the user's domain from their primary SMTP address. This should eliminate the common messages Outlook users receive whenever a change has been made to their mailboxes that requires them to restart Outlook.

Managed Store Processes

Those who have worked with Exchange for quite some time know all about the Extensible Storage Engine

(ESE) and the Information Store, as well as the various processes that go along with it. Well, another change in 2013 is the fact that the Information Store processes have been rewritten in C-sharp. Obviously the idea is to provide a better overall set of services for managing mailbox databases, including having each database be handled by its own process so that if anything is wrong with a single database process, it will affect only that process.

You can see in **Figure 3** that we have two Exchange databases and each one has its own Microsoft.Exchange.Store.Worker process. You might also note the Microsoft.Exchange.Store.Service.exe process, which is the process that controls the various worker processes. So, ultimately the store process that we had in earlier versions of Exchange has been replaced with two processes in Exchange 2013.

Note: With Exchange 2010 you can have up to 100 mounted databases per Exchange server; however, with Exchange 2013 you can have only up to 50. It's possible the move to the new Managed Store had the Exchange Team concerned about scalability and so they reduced the number until they can be certain the new store scales as well as the previous one. Time will tell; we may see an increase in the number of supported databases with SP1. But until that time you have to keep this limitation in mind when designing your deployment strategy if your environment happens to have over 50 databases mounted on individual Exchange servers.

Public Folder Management Tool

Modern public folders utilize the familiar public folder hierarchy with an all-new back-end design that ditches the public folder database and uses a special mailbox that goes right in a mailbox database. The replication model has changed to now use the continuous replication solution we see in Exchange database availability groups. This replication is not used to replicate the public folders in the same way we have with legacy Exchange, to put public folder content closer to people in their various locations. The way this works is that end users see the public folder hierarchy as one complete piece but the content of individual folders within the hierarchy might be located in different mailboxes. It's seamless to end users.

Note: One nice feature of the EAC is that we no longer have to go through the Toolbox to an outside tool called the Public Folder Management Tool in order to manage public folders but can now handle all of this through the EAC.

SharePoint Integration

At the same time we see public folders evolving, we also see SharePoint being brought into the picture through site mailboxes. Legacy solutions from Microsoft split email and documents between two unique data repositories, so collaboration requires accessing that data through different clients: Outlook to access the email part of the collaboration and a browser or an Office application to access SharePoint for the document side.

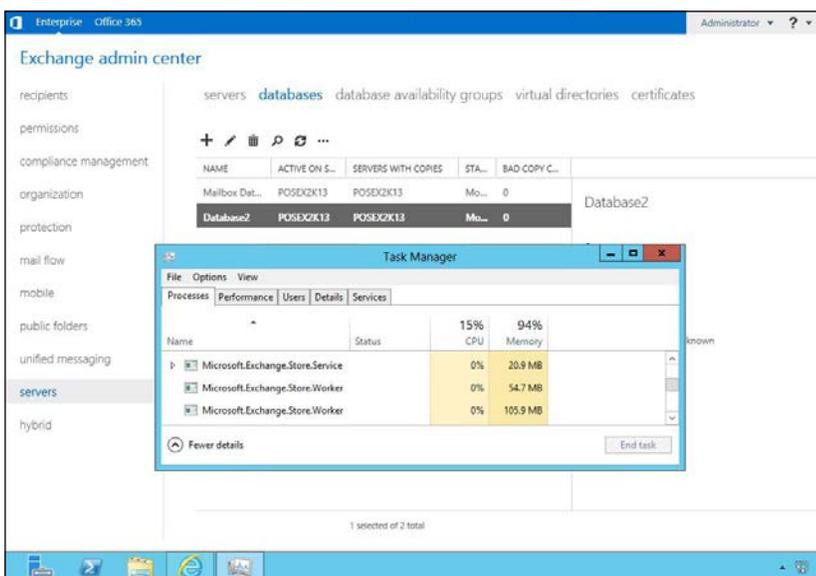


Figure 3: The new Managed Store has two processes in 2013

With site mailboxes, you can access both email and SharePoint documents through the same end-user client. This requires Exchange 2013 for email and SharePoint 2013 for the documents. Outlook clients can access emails posted in a site mailbox and can show end users the messaging conversation while also creating a document view in Outlook that allows users to see the document metadata stored in SharePoint and then decide if they want to access that document.

The value here is that collaboration and productivity is improved by providing a single client interface for management of provisioning and lifecycle concerns.

Improved PowerShell Scripting

We mentioned earlier that there is a web-based administration tool, but this doesn't mean we have lost the ability to manage Exchange through PowerShell. In fact, it is quite the contrary. Although 13 cmdlets have been removed from our arsenal (mostly due to the new Public Folder changes), there are 187 new PowerShell cmdlets. With a constant push to utilize PowerShell when looking to perform bulk changes or to perform certain administrative tasks faster, Exchange administrators will benefit from having additional cmdlets and parameters to ensure this is possible.

Data Loss Prevention

A new feature that combines the notification aspect of Mail Tips with the protective umbrella of transport rules is Data Loss Prevention (DLP), which helps to protect data from leaking outside the organization and help inform and educate users regarding the policies that are in place.

Policies can be created from scratch or based on templates, with built-in templates based on regulatory standards like personally identifiable information (PII) and payment card industry (PCI) data security standards. These policies can help filter things like financial information (such as credit card info) as well as other sensitive data like Social Security numbers, passport numbers and so on. These kinds of policies can help organizations come under compliance laws.

Note: If this feature is one of the primary reasons why you are considering the move to Exchange 2013 then you should also consider rolling out Outlook 2013 at the same time because Outlook 2013 is DLP-aware.

Other Features

There are certainly additional platform features and enhancements you will want to review when making the decision about making the move to Exchange 2013. These

TO VIRTUALIZE OR NOT?

You're not a tech dinosaur if you prefer to avoid virtualizing Exchange 2013. After several years of constant virtualization propaganda, the answer to the question of virtualization may seem obvious: of course you want to virtualize. But so much has changed with Exchange server role architecture that the question may not be answered so easily. There are some rules of thumb that should be adhered to whether you virtualize or not:

First, based on the server role(s) you choose to install, make sure you follow the required hardware requirements here: <http://technet.microsoft.com/en-us/library/aa996719.aspx>.

Second, don't oversubscribe the system. Too often we are seeing folks start off with good intentions and purchase a monster system that can easily handle Exchange virtualized and possibly even another server or two or more. But they get greedy and they begin to short-change the Exchange server by oversubscribing it. This is a mistake. If you do virtualize, make sure you give it the required processor and memory power stipulated.

Where the decision becomes interesting is if you plan on making use of the Unified Messaging features that are now bundled into the Mailbox role. Bundling them in isn't the problem: if you aren't going to use them, you can simply ignore they exist. But if you do plan on using the UM services, keep in mind that with Exchange 2010 SP1 and UM virtualized, the requirements were pretty intense in order to ensure performance and stability on those calls coming through. Guidelines in this regard are still a work in progress for the Exchange Team, but some have said it may be better not to virtualize the server and take the performance hit of virtualization if you plan on making good use of the UM side.

Obviously this all depends on the number of users involved, the power of the system you're using and so forth. But if there is any question, if you're on the line in terms of the server you plan on using for Exchange with UM, don't risk performance when you can install direct on bare metal. You do not pick up a tremendous amount of virtualization benefits that we see with other servers that can be virtualized: dynamic memory (not supported), dynamic disks (not supported), snapshots (not supported), quick migration, other solutions that are similar with regard to failover clustering and migration technology that may not be supported by Exchange, and so forth.

include the addition of anti-malware protection, an increase in information rights management capabilities, improved in-place archiving, retention and eDiscovery, and more. Many of the items that were sorely needed improvements over Exchange 2010 were placed into a queue and knocked off the list one at a time, bringing us to the Exchange 2013 release we have today.

MIGRATING TO EXCHANGE 2013

Once you've made up your mind to take on an Exchange 2013 migration or consolidation project, the question that comes up next is how. How you get there depends greatly on your source platform. If you are performing a simple upgrade from Exchange 2007 or Exchange 2010, you have it relatively easy, though there are a few important items to take note of. If you are migrating from Exchange 2003 or earlier, transitioning from a non-Exchange email system, or planning to consolidate multiple Exchange forests into one, then there will mostly likely be a need for additional preparation and assistance.

Review the scenarios below to better understand what you are getting into by taking on a migration to Exchange 2013:

- **Source: non-Exchange platforms**—Migrations from non-Exchange email solutions are not supported with coexistence in Exchange 2013. If you are migrating to Exchange 2013 from a platform such as Lotus Notes, Novell GroupWise, or Google Gmail, Microsoft doesn't provide the migration tools so you'll need to use PSTs, IMAP or utilize third-party tools that can assist. A third-party tool can provide the long-term or short-term coexistence you need when migrating. The only negatives with a third-party tool are the additional cost incurred to perform the migration and the time it takes to learn how to use the tool properly.
- **Source: Exchange 2003 or earlier**—Migration and coexistence for migrating from Exchange 2003 or earlier is not supported by the Exchange 2013 native migration tools. Coexistence can be essential if you are going to transition from one version of Exchange up to 2013 or perform an Exchange consolidation to a new Exchange 2013 environment. If your migration project involves Exchange 2003 or earlier, you will either need to perform the migration twice or utilize a third-party tool that will handle this migration scenario in one jump. If performing a double migration, you would need to first migrate to Exchange 2007 or 2010, and then to Exchange 2013.

This can be difficult because you're looking at two different Exchange architectures and multiple deployment issues in terms of which servers to configure first. Then, just when you get that first transition done, you have to turn around and do it again. Any transition is going to bring with it certain headaches, so having to do two migrations back to back can cause a migraine. Utilizing a third-party solution can save the day by giving you a direct migration from ancient Exchange (2003 and earlier) to Exchange 2013. The ability to upgrade in a single hop is worthy of your attention and research into an effective third-party tool.

- **Source: Exchange 2007/2010**—Migrating from Exchange 2007 or 2010 to Exchange 2013 is supported in Exchange 2013. If you have an Exchange 2007 environment, you will need to install a rollup update to make the coexistence scenario possible; if you have Exchange 2010, you will need to install SP3 to make the coexistence scenario possible. However, as of the time of this writing, neither the rollup update for 2007 nor the SP3 for 2010 is available, so you will be unable to migrate using the native migration tools until those are released. While waiting for the rollups, you can use third-party tools to migrate as soon as the tool supports your migration scenario. Third-party tools that offer full coexistence and AD or Exchange cleanup are available as a good option and can be especially useful if you are performing more than just a simple upgrade – in the case of migrating a complex Exchange environment or taking on a consolidation project due to a merger or acquisition.

Exchange Transitioning Out of the Box

Many of the third-party migration tools can help you restructure your Active Directory and upgrade legacy servers, since restructuring is frequently a part of Exchange migration and upgrade. However, if you are utilizing the native migration tools in Exchange 2013, regardless of the version of Exchange you are migrating from, the Active Directory has to be prepared. For starters you need to make sure your forest and domain functional levels are at least Server 2003 or higher. And then the schema, your overall AD forest and domain components need to be prepared for the Exchange Server, which includes the creation of Exchange specific groups.

The process can be done through the Install Wizard when you are installing your first Exchange server or you can proceed with a variety of different switches. The primary switches are Setup /PrepareSchema, /PrepareAD and /

PrepareDomain (or /PrepareAllDomains). When taking on a project with the native tools, I encourage you to learn more about the use of these switches and what occurs when they are run within your environment.

Once you have a way to move forward, the process is somewhat simple in theory. First, as mentioned, you need to make sure Active Directory is prepared to handle your Exchange 2013 server. Then install your Exchange 2013 server. Typically it is recommended that you install with both server roles. Begin the process of moving over mailboxes and public folders, if you use them. Once mailboxes are moved, begin decommissioning the legacy Exchange servers. Depending on the size of your existing environment, this may be done in a weekend, or it may take weeks or months before you see the last of your legacy Exchange servers decommissioned.

It may appear that we've oversimplified the process and yes, the goal was not to frighten you away from the transition. In all honesty, the process really is made up of those steps. There just happen to be a lot of little steps that have to be completed before, during and after the transitioning process.

Evaluating Third-Party Migration Vendors

There are many different reasons why customers utilize a third-party tool or consultant when taking on an Exchange 2013 migration project. One of the main reasons is the experience necessary to ensure the success of complex migrations. The value of a third-party tool becomes clear when you have a chance to see how much faster and easier it is to perform the tasks necessary to migrate your environment using tools that have been purposely designed to do just that and with assistance from migration experts.

Another big reason for evaluating a third-party tool is that Microsoft's native tools seem to provide enough support to handle only the easiest of transitions. If your organization has a complex migration project or an unsupported migration scenario, you will find value in utilizing a third-party tool. Being left without a path from a non-Microsoft platform or migrating from Exchange 2003 (or earlier) doesn't have to be an end game or a double-hop nightmare. A third-party solution can eliminate the stress and frustration in these cases.

When evaluating a third-party migration solution, it is essential that you select a vendor that has extensive

migration experience and that provides quality support when using their product. You might also want to inquire about the services that the vendor offers to help ensure you are successful or to perform the migration for you. Support and services are often overlooked when evaluating a vendor but can sometimes be more important than the migration product itself.

FINAL THOUGHTS

Well, there is obviously much to learn with regard to Exchange 2013 migration. The features are clear and they may or may not be compelling enough to encourage a move.

Making the transition from a non-Microsoft platform can be difficult, but if you get the right assistance and fully prepare your IT staff and your users for the migration, success can be achieved. Exchange offers a lot more functionality than some of the other email solutions and can be beneficial to your organization in the long run. Moving to Exchange from a non-Microsoft platform is worth considering for a variety of reasons, not the least of which is the fact that no other solution on the market provides the tremendous collaboration and communication abilities that an Exchange 2013 environment can provide when used in conjunction with SharePoint 2013 and Outlook 2013 on the client side. Exchange has become the leading solution with the widest market share by enhancing compliance functionality, high availability options, an increased end-user feature set with MailTips, DLP rules, unified messaging built-in and much more. Non-Microsoft platforms are limping along on life support in comparison, and so it makes sense to consider moving over to Exchange.

If you're still working with Exchange 2003 or earlier, it's time to make that move even if you aren't fully compelled because support time is running out and the migration path is already outside your reach without help. If you are upgrading from 2007 or 2010, remember that, to utilize the native migration tools, you'll need to use the rollup or service pack and follow the Deployment Assistant. Be sure you plan in advance for this move by running profile tools on your users, inventorying your entire organization (mobile devices, Outlook clients and so forth) and putting together a reasonable strategy; these steps are critical to a smooth transition.

As we said at the outset, a great deal of planning is needed when taking on a migration project. A solid inventory of what you have, design decisions for planning and deployment, a clear focus of tools from both Microsoft and third-party vendors and possibly even consultation and assistance from migration experts—all this comes together to make a migration to Exchange 2013 smooth and headache-free.

ABOUT DELL ZEROIMPACT MIGRATION SOLUTIONS

Whether you are upgrading a legacy platform, migrating to a new platform, or undertaking a consolidation project due to a merger or acquisition, Dell can help you mitigate the risk and eliminate the impact on your end users. With more than 30 million mailboxes migrated to Exchange and more than 45 million Exchange mailboxes managed, Dell has the experience to cover the entire messaging life-cycle—from planning and analysis through migration and ongoing management.

Dell migration solutions are based on the following four key pillars:

- **Prepare:** Get detailed pre-migration assessments that analyze the current state of your messaging environment. Knowing exactly what should be moved and what shouldn't ensures a successful migration with no surprises.
- **Migrate:** Save time, avoid user disruption, and get up and running faster and with less risk. Dell simplifies migration to eliminate the complexity of transitioning to the latest addition to your Microsoft infrastructure.
- **Coexist:** Maintain business productivity by ensuring interoperability between users on different email clients. With Dell, users never lose contact or collaboration abilities during migration, so business productivity is maintained.
- **Manage:** Get the most out of your new investment, reduce administration time and meet SLAs. Dell has the right solutions for managing Exchange so that you'll be prepared to report, recover and monitor across your new environment.

For more information on a seamless and stress-free migration to Exchange 2013 with Dell, visit www.QUEST.com/ZerolMPACTMigration.

