A 10 Step Migration Survival Guide

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MIGRATIONS
For Exchange Server 2003

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Abstract
Most system administrators have discovered that when it comes to Microsoft Exchange migrations, the process can be a bit more complicated than they first thought. In fact, the key to any successful Exchange migration is organization and proper process design. This ten step migration survival guide helps by providing a clear and concise migration process that can be adapted to any Exchange migration. It helps by providing appropriate reminders in each of the key steps of the migration. It recommends the inter-organization migration—moving from your existing Exchange organization to a completely new structure—but also offers advice on inter-organization migrations. Whatever your migration strategy, these ten steps will help ensure you don’t forget anything crucial in the process.

About the Authors
# A 10 Step Migration Survival Guide White Paper

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Introduction

Most system administrators have discovered that when it comes to Microsoft Exchange migrations, the process can be a bit more complicated than they first thought. In fact, the key to any successful Exchange migration is organization and proper process design. This ten step migration survival guide helps by providing a clear and concise migration process that can be adapted to any Exchange migration. It helps by providing appropriate reminders in each of the key steps of the migration. Whatever your migration strategy, these ten steps will help ensure you don’t forget anything crucial in the process.

The ten migration steps are actually based on the word “migrations”. As such, each step begins with a key word that spells out the objective:

1. Motivate
2. Investigate
3. Gather
4. Restructure
5. Architect
6. Test
7. Implement
8. Organize
9. Notify
10. Sign Off

Each step is as important as the other. Read on to find out why.
A 10 Step Migration Survival Guide for Exchange Migration

Each of the key steps deals with a particular aspect of the migration. Taken as a whole, they cover the entire migration process and address the most important parts of this process.

1. Motivate

Motivate your organization to make the move to Microsoft Exchange 2003.

When moving to Exchange 2003, begin by gathering both business and technical drivers for the migration. These drivers can include the answers to the following questions:

- Does your organization have too many Exchange organizations, too many servers, too many sites as a result of mergers, acquisitions or business restructuring?
- Would a simplification of the Exchange messaging structure reduce administration costs?
- Is there a more logical messaging structure you could put in place?
- Can your business profit from improved email service levels?
- Do you have mobile device users who need immediate access to data?
- Are key decision-makers content with the current Exchange structure and service offering?

Collect input from these decision makers and prioritize your drivers for change. Are your main drivers based on business needs or are they technical in nature? Document and present these drivers for change to receive sign off and approval to proceed.

2. Investigate

Investigate Exchange 2003’s new features and identify how they affect you.

There are several reasons to move to Exchange 2003. Its new feature set includes key elements such as:

- Support for multiple storage groups. Each Exchange can manage up to four storage groups each hosting up to five databases for a total of twenty databases, offering the possibility to greatly reduce the number of servers running email as well as reducing the size of each database to manage.
- Better clustering since clusters can now host up to eight nodes in an active/passive configuration. This provides better availability for Exchange services.
- New administrative groups will now help support the administrative structure of your organization through proper delegation measures.
• Improved security through a new front end/back end server architecture and the remote procedure call (RPC) over the hypertext transfer protocol (HTTP) which takes better advantage of firewalls.

• Improved mobile device support through Outlook Mobile Access (OMA) and a vastly improved Outlook Web Access (OWA) which now includes spell checking and the same look and feel as the feature rich Outlook 2003 client.

• Junk mail filtering and better control over both incoming and outgoing messages through the new Intelligent Message Filter which provides server-side message filtering, heuristics-based message analysis, and support for per-message spam confidence level ratings.

• Dynamic distribution lists whose membership is based on lightweight directory access protocol (LDAP) queries. Users can now belong to distribution groups through common attributes they share with the other members of the group.

• New Outlook cached mode which downloads data as needed and can let clients work offline without error messages (Outlook 2003 only).

• Better and simpler management through reduced numbers of servers as well as increased performance—the same hardware running Exchange version 5.5 will support approximately 500 users whereas in Exchange 2003, you can easily support at least 2,000 users simply because of more efficient message handling.

As you can see, there are quite a few reasons to move to Exchange 2003, besides being on the latest and most secure email platform coming from Microsoft. A properly configured Exchange 2003 machine can now easily host up to 4,000 mailboxes of 200 MB each. This is a powerful incentive for the reduction of the number of servers in your Exchange organization.

3. Gather

*Gather information about your existing Exchange implementation and see how it can be improved with Exchange 2003.*

Get precise details about number of sites, organizations, servers, and users, replication topology, and existing disaster recovery mechanisms for your Exchange environment. Identify how Exchange is being used today. Are there any outstanding issues with the mode of operation or recurrent problems users face? Are you using resource mailboxes, hidden mailboxes, and public folders? Are your users delegating mailbox administration to others? Do you have any business processes built onto Exchange?

Diagram and document your messaging infrastructure. Where are your bridgeheads and how are they connected? Identify current and future loads as well as current and future mailbox sizes. Is there a one-to-one
relationship between users and mailboxes? What is the total storage
size of your existing Exchange messaging system?

Finally, look at how you manage Exchange today. Can your existing
Exchange administration structure be improved? Are there more logical
groupings of servers you could implement? Do your administrators
have recurring issues with the existing setup?

Create clear and concise documentation. Prioritize any issues by most
common and most complex to resolve. This information will help you
understand how you can improve service levels with Exchange 2003.

4. Restructure

Restructure your Exchange strategy to improve service levels.

Now that you have both the Exchange new feature set and a
documented existing infrastructure in hand, you can begin
restructuring your Exchange service offering. This is where you’ll want
to take full advantage of the new OWA as well as OMA. Make sure your
new strategy takes both internal and external email access into
account. Protect front end servers with proper firewalls and focus your
dge strategy on Outlook 2003’s data streaming capabilities as well as
the ability to access email over port 80 or 445. Develop this infra-
structure design based on improved capabilities and improved service
levels.

You might also consider consolidation in your new strategy. Can you
reduce the number of organizations, sites or servers? This might even
be the ideal time to implement your first storage area networks (SAN) if
it isn’t already done. SAN storage along with clustered email servers will
improve service levels. Locate servers with the highest concentration of
users and review the replication topology. Where will your bridgeheads
be located? Will you use a front end/back end architecture? How many
storage groups should you have per server? These are only a few of the
questions to ask at this stage.

To finalize your architecture, you’ll need to choose the migration
methodology: intra- or inter-organization. Intra-organization means
installing Exchange 2003 into your existing organization and moving
mailboxes from your existing servers to the new servers. If the hardware
running existing servers is relatively new and supports Exchange 2003,
intra-organization migrations may simply mean upgrading servers and
keeping the mailboxes on them. Using an inter-organization migration
means creating a new email installation with Exchange 2003 and
migrating mail boxes from the old organization to the new one. You’ll
want to use an intra-organization migration only if you are completely
satisfied with the way your existing organization is designed and you
have no issues with it. This is quite rare.

In most cases in a medium to large sized company an inter-organization
migration is recommended. This will allow you to work in native mode
from day one, have a rollback plan in case or failure, reorganize the
organization, consolidate the sites and servers in the existing
organization, and rename the organization if necessary. Also, an inter-
organization migration is required in the case of an acquisition or
merger. The inter-organization migration lets you take immediate

Recommendation
Use an inter-
organization migration
to create a brand new
Exchange infrastructure
that immediately runs in
native mode and can
take full advantage of
all of Exchange 2003's
new feature set.
advantage of the new feature set. The advantage is clear, especially since you’ll probably need to use a server rotation strategy whether you use the intra- or the inter-organization method (see Figure 1).

Whichever method you choose, you’ll need to make sure you include backward compatibility in your migration strategy. How will your users continue to receive messages during the migration? Will they be able to receive responses to older messages once you’ve made the switch? Do you need to implement special procedures for response re-routing?

Figure 1. Using a Server Rotation Strategy for Migration

Another point of concern for the migration strategy is the distribution list rationalization. In older versions of Exchange, distribution lists are separate from the security environment. In Windows Server 2003, they are part of the Active Directory. This means you may have security groups that are identical to the distribution lists you’ll be migrating. In this case, it is best to have the security groups perform double-duty by mail-enabling them and getting rid of the distribution list.

Also, consider all users, mobile and not in your strategy. Include how you will address client system updates for the deployment of Outlook 2003. Other key questions include:

- How do you plan to migrate public folders? Will both migrated and non-migrated users need access to them? If so, how will data be synchronized between the source and the target?
- Will both migrated and non-migrated users need to collaborate during the migration? If so, how will your architecture support this?
• How much more storage will migrated data take than it does today? Keep in mind that storage will increase at first since migrating data from one Exchange server to another always breaks single instance store features.

• Who will perform the migration? Existing staff or will you be bringing in special project staff? Will the migration cause your staff to work off hours?

• How will you back up new Exchange systems? Does your existing backup tool support the new Exchange platform? Do you need to acquire new agents?

• Is there any way you can reduce the existing Exchange stores prior to migration? For example, running standard Exchange maintenance tasks will locate and correct corrupt data. In fact, running these maintenance tasks is a prerequisite to migration since identifying and removing messages with corrupt MAPI properties will solve problems before they occur. Another key question is: can you also archive data prior to the migration? If so, this should speed the migration process.

• Finally, how long do you expect the project to last? If it takes you several months, you should consider co-existence strategies to minimize user impact during migration.

The answers to these questions will let you design the proper Exchange structure and help you identify how it needs to be set up during the migration to support coexistence issues.

This is also where you might consider the use of a commercial migration tool. Using the right tool, you can prepare the target infrastructure ahead of time and copy all data from your existing Exchange stores to your new target servers. Common data used for collaboration (such as public folders and calendars) can be synchronized both ways between the organizations. This data is mirrored in real time so users can be migrated when you’re ready for them (see Figure 2).
Users that work together and share common data can continue to do so whether or not they have been migrated. In addition, data mirroring, especially bidirectional data mirroring, will let you create an automatic failover strategy since you can always send users back to the old infrastructure in case something goes wrong.

5. Architect

Architect the new Exchange 2003 implementation to provide high availability both inside and outside the firewall.

Once you’ve determined which migration strategy you plan to use, you can proceed to the creation of proper architectural designs. These designs should ensure that your solution is highly secure and properly protected with appropriate antivirus and anti-spam tools. You’ll need to know how email will be directed before, during and after the migration. You’ll also need to implement an appropriate backup strategy to protect data at all times.

Now that you have an estimated project duration, you’ll be able to architect how you will manage coexistence during the move. This means you will need to identify how you will replicate the directory and shared data like Calendars, Free/Busy information, and Public Folders. You’ll also need to include the server rotation process you’ll need during the migration of the architecture. Server staging procedures should also be included as well as how many mailboxes and other data each target server will host.

This architecture will also need to include reply-ability support both before and after the migration. If a user receives the answer to an old pre-migration email message, will it reach him or her after the migration? Will you need to continue to provide support for older addressing schemes or can you move directly to the new Exchange standard?

You can use a ten step migration approach (see Figure 3). This example is based on an inter-organization migration from Exchange 5.5 to Exchange 2003. In this case, you begin by preparing both the schema and configuration containers in Active Directory. This is done with the ForestPrep switch for Setup. Next, prepare the domain containers in Active Directory. Each domain that will either include an Exchange or mail-enabled objects must be prepared as well as the root domain to contain special Exchange objects. So your next step is to run DomainPrep where appropriate.

Once this is done, you can install Exchange 2003 in your production domain. Then set up connectivity between your two Exchange organizations. You can then synchronize the directory, mirror public folders and calendars, followed by the synchronization of mailboxes. After all data has been copied you can finally modify the Outlook configuration on the affected client computers. You can do this at your own pace since all data is available in both organizations. Finally, once all users are migrated, you can decommission the legacy Exchange servers and the legacy Exchange organization.
The most important aspect of architecture is documentation. Make sure you document it properly and integrate it into your migration plan. Once this is done, communicate it to all involved parties and make sure they take the time to review completely before you move on.

6. **Test**

*Test, test and test again to make sure your new implementation strategy and your migration methodology will work properly.*

Despite your best efforts and the best advice on the market, you’ve probably come to know that every plan has its flaws. The best way to flush them out is to test every single aspect of your approach. You can begin with a proof of concept—a sample implementation of the target infrastructure with a minimal number of users—to find out if the approach is appropriate. One of the best ways to do this is to use virtual machine technologies such as Microsoft Virtual PC 2004 or Virtual Server 2005 or VMware’s Workstation 4.5 or GSX Server 3.1 to create a virtual infrastructure. If you choose to use Microsoft technology for this, you’ll have access to a free physical machine conversion toolkit. This will let you take existing Exchanges and copy them to your virtual infrastructure where you’ll be able to fully test all of your migration strategies. Make sure you track any issues and adapt the architecture accordingly.

Once you’re ready, you can plan for a pilot project with key users and real machines. It’s a good idea to involve as many high-level decision-makers as you can in your pilot. Their usage of the new infrastructure will help foster better acceptance of the new technologies. After all, if the boss is using a new version of the product, it won’t be long until staff members are on it too, right?

The key to this test plan is to document everything. Interview users, administrators, help desk personnel and get their input on what is right.
and what is wrong with the plan. Detail these results and make required adjustments to your strategy.

7. Implement

Implement the migration and begin the move to Exchange 2003.

Now you’re ready to proceed at full pace. Begin by preparing key servers for the start of the migration. This might be a good time to review your server build to make sure you take full advantage of Windows Server 2003 features. Also, you’ll need to make sure your new organization is in native mode, especially if you use the inter-organization migration strategy (see Figure 4). Then, use the migration product’s background synchronization capacity to mirror Exchange data between source and target servers.

Since you’re using a new organization, you’ll have the opportunity to restructure your storage groups as well as the routing groups. Exchange 2003 can support many more users in each storage group now so this gives you an excellent opportunity for consolidation. The same goes for routing groups. The new organization gives you an ideal opportunity to review your Exchange replication strategy and optimize it through the new feature set.

Going Native

Exchange 2003 is installed in mixed mode by default, but when you install it into a new organization running on Windows Server 2003, you can set it to native mode. This gives you access to Exchange 2003’s full feature set. To do so, view the organization’s properties and click Change Mode on the General Tab.

Figure 4. Changing to Native Mode

Replicate the data from source to target server and validate that the infrastructure is ready and stable before you move users.

8. Organize

Organize the new services and the people who will be supporting them.

While you’re preparing your new infrastructure, you can take this opportunity to train your help desk operators as well as your Exchange administrators. Custom training programs are often the best for this. There is a lot to be said for bringing a certified trainer in house to deliver Microsoft Certified Training materials that are adapted to your particular needs. You can even set up the training program to provide
complete training for administrators but at the same time including a couple of days for help desk staff. This is ideal because it is important for administrators to know how help desk staff will deal with issues surrounding the migration.

Once the training is complete, you can start using Exchange’s new tools and new capabilities to manage the service. This way you staff will continue the learning process and will take full advantage of their new knowledge. This is the perfect time to evaluate third-party Exchange management products. You’ve seen the value a third-party product provided for migration; you can get the same value for management activities. This way your staff can begin to work with the new product immediately.

Another good idea is to make the help desk and the administrative team part of the pilot project to get them up to speed on new features. In fact, your own project team should be the first to migrate. Then migrate key support personnel. You’ll also want to migrate key executives right from the start to help foster momentum for the change.

Finally, you’ll want to have a few standard responses to potential user migration issues prepared ahead of time to facilitate the support process.

9. Notify

Notify users of the change and communicate the new feature set to them.

Once this is done, you can switch user connections from the source to the new target on your own schedule. Since the data is synchronized in real time, you can make the switch whenever you feel ready to proceed. Migrations can be done through sites, servers, or groups of users. This means that you can upgrade user systems to Outlook 2003 while still pointing to the legacy message store. You can then change to the target message store once you’re sure this new infrastructure is stable.

Before you can proceed though, you’ll need to have some prepared items such as standard communications to users before and after the migration, key contact numbers for users for support and other information, and standard training material for migrated users. For example, pre-migration communications could task users to clean up their mail boxes. Post-migration communications could help them set up their new Outlook 2003 environment. Training tools should be simple and to the point. One good tool for this is a cheat sheet that displays the Outlook 2003 interface and points to new features.

Once this is done, the migration should be transparent to users because both the source and target are mirrors in real time. Once a source server is freed up, you can rebuild it to move it into your new Exchange organization using the server rotation strategy.

Begin with a pilot program targeting key users, usually up to ten percent of your user population. This will let you burn in your migration process, testing all user communications, user training programs and user support strategies. Track any user or technical issues and adjust your migration strategy as needed.
Once the pilot project is complete, take the time to gather input from users on the migration process to make sure you review and improve it as required before proceeding to full deployment. Once you begin full deployment, make sure you communicate successes to the user base to continue to foster excitement about the project.

10. **Sign Off**

Sign off on a job well done and congratulate yourselves.

Once the project is complete, you should perform a project post mortem to capture migration best practices that are particular to your organization. This will be a great help when you need to prepare for the next version of Exchange.

Now that your system is up and running, you’ll want to check for any cleanup tasks and begin monitoring your new services. If you’ve selected a product for the migration, you might consider looking to the same vendor for a product to manage the new Exchange environment. In addition, you’ll want to make sure you can properly backup and restore Exchange messages. This is also an ideal opportunity to get the right tool in support of your disaster recovery strategy.

Congratulations and welcome to Exchange 2003!
Conclusion

There you have it: a ten step survival guide for a migration to Exchange 2003. As you can see, Exchange migrations can be painless, but even so, they often become recurring tasks, especially if your organization is one faced with frequent mergers and/or acquisitions. This is why selecting the proper partner and acquiring sophisticated migrations tools is often the key to a successful migration as a whole.

If migrations are recurring as is the case for many corporations or government institutions, then making sure you have a documented process in place will help ensure that migrations become routine. After all, even if they seem daunting at first, a migration to Exchange 2003 can be relatively painless when it’s done right.

Evaluation and Poster

For a free evaluation of the Quest Exchange Migration Suite go to: wm.quest.com/products/MigrationsuiteExchange/.