



Microsoft Exchange Server Email Archiving Options Compared

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About MailStore

Introduction

The need for email archiving has long-been a need for many organizations running Microsoft Exchange Server on-premises. Whether the impetus is to minimize the mailbox data being regularly backed up (presumably to speed up recovery times) or to establish long-term retention of email for legal, compliance or regulatory reasons, archiving has become an important aspect of any Exchange implementation.

Many organizations look for native solutions to the problem of archiving, looking for the least expensive, but most functional means by which to archive – rather than starting with their business needs, building a requirement list and finding an archiving solution that meets their needs – regardless of whether its native to Microsoft Exchange or not. Ultimately, organizations require an ability to archive that addresses those business needs, but does so in a cost-effective manner. So, should you use the built-in archiving capabilities within your on-premise Microsoft Exchange Server implementation, or should you look for a third-party?

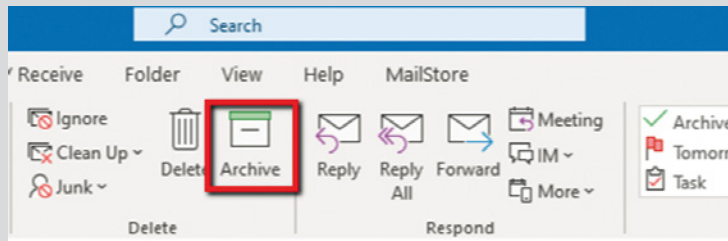
In this paper, we'll look at the archiving of Microsoft Exchange from a number of technical and business considerations and compare three possible methods:

Method 1 – [Outlook AutoArchive \(PST\)](#)

Method 2 – [Exchange In-Place Archiving](#)

Method 3 – [External Archiving Using a Third-Party Solution](#)

What About the Archive Button in Microsoft Outlook?



Archive button in Microsoft Outlook 2013

There is a fourth way to “archive” emails with Microsoft: the Archive button in Microsoft Outlook. It’s not included in the comparison, as it’s not really an archiving solution, but a way to enable users to move email from their inbox folder to an “Archive” folder within the same mailbox. So, while it uses the “archiving” moniker, emails aren’t actually transferred to a genuine archive. The Archive button can be considered more a productivity feature but definitely doesn’t meet the requirements of a professional archiving solution.

Archiving Considerations

When looking for a means to archive emails from your Microsoft Exchange environment, there are a number of key considerations that should be included when weighing archiving options. This paper will utilize the following seven aspects of archiving as the basis for comparing the previously mentioned three possible methods:

- **Pricing** – The discussion of maintaining a copy of massive amounts of email and associated attachments for a long period of time will need to include the topic of pricing. Storage, software licensing, staffing, backups, and more will add to the overall cost of maintaining an email archive.
- **Archiving Strategy** – Not all archiving is the same. Are we archiving every mailbox? Only certain emails within specific mailboxes? Archiving by date? Content? What’s possible depends on the solution used and should align with business requirements.

- **Compliance** – Many organizations need or want to keep an archive of all communications instead of, or in addition to, mailbox archives for long-term retention to address future issues arising from a growing number of compliance regulations, as well as legal or HR concerns. The Journal-based archive takes a copy of all sent and received emails from desired mailboxes and places them into a single Journal mailbox¹ as a long-term archive. This can serve as the basis for helping to meet regulatory and internal retention mandates.
- **Storage** – An archive has the potential to grow infinitely, but no organization has an infinite budget. The technology used to minimize the amount of storage needed is an important factor to keeping costs low.
- **Archive Redundancy** – For many organizations in regulated industries and those that use an archive's long-term retention to assist with legal and regulatory issues require that any archived data be redundantly stored to ensure its availability and accessibility over time.
- **Archive Access** – Questions around who has access to the archive and what can they do need to be asked and answered. Ensuring archives cannot be unnecessarily manipulated to maintain the highest levels of integrity is paramount to a reliable archive.
- **Archive Mobility** – Someday, you may need to move off of Microsoft Exchange Server and move to another on-prem platform or to the cloud. What happens to your archive in that instance needs to be addressed before you invest time, energy and money into your archive.



Let's look at your options through these lenses to provide you with enough detail to identify whether each is viable for your organization.

¹<https://docs.microsoft.com/en-us/exchange/policy-and-compliance/journaling/journaling>

Method 1 – Outlook AutoArchive (PST)

Outlook has long supported the ability to export contents of an Exchange mailbox into a portable archive file. While only having the limited functionality of a structured database file, Outlook Archives have been used to assist in archiving, backups and even migrations.

Versions Supported

- Outlook 2013
- Outlook 2016
- Outlook 2019
- Outlook 2019 for Mac
- Older unsupported versions of Outlook

Pricing

This archiving option, by far, is the least expensive from both the staffing and licensing perspective, as no dedicated staff are needed and the functionality is built into the Outlook client. However, it should be noted that an Outlook Archive file is not optimized for storage, nor does it utilize Single Instance Storage (so duplicative emails and attachments can exist). Lastly, Outlook Archives are not a managed process, so the resulting PST files can exist anywhere, including a user's local computer.

Archiving Strategy

Outlook Archiving relies on the user to select which emails should be archived. There is no policy or process in place to ensure emails meeting specific business criteria are met. Outlook Archives should be far more considered a manual copy than anything else.

Compliance

Outlook Archives provide no guarantee of immutability for purposes of eDiscovery in the future, nor completeness of the email being archived, making them an unreliable archive medium for regulatory or internal compliance reasons.

Storage

Outlook Archive files have a default maximum of 50GB², but can extend in size into the petabytes. Having said that, just because you can, doesn't mean you should. Take the lack of single instance storage for example. Within an Exchange mailbox, a 10MB email attachment that exists initially in the Inbox and then also in Sent Items as part of a forwarded copy of the initial email still only takes up 10MBs. But... in an Outlook Archive, those two emails would be stored separately, taking up double the space. Multiply this by years of emails and attachments, and the space needed increases materially.

Archive Redundancy

The Outlook Archive is a single PST file that has no redundancy whatsoever. It is recommended that if this method is used, the PST should be placed on a server (which does generate additional network traffic and slow down the archiving process) so that the file can be backed up.

Archive Access

Outlook Archives are easily accessible; all that's needed is an Outlook client and access to the file. Searches can include the Outlook Archive, but it requires indexing of the archive file by either Windows Search on Windows devices or Spotlight on Mac devices. The downside, there is no security protecting access to Outlook Archives, so literally anyone with the Outlook client and file access can open the Archive – keeping in mind that the file itself could exist on a user's laptop, making it difficult for, say, an auditor to perform eDiscovery.



Additionally, there is no facility that protects the Archive's contents from being deleted, modified, etc. eliminating this method as an option when data chain of custody and/or data immutability are necessary as part of the archive.



²<https://support.microsoft.com/en-us/topic/how-to-configure-the-size-limit-for-both-pst-and-ost-files-in-outlook-2f13f558-d40e-9c2a-e3b6-02806fa535f4>

Archive Mobility

The data within an Outlook Archive can be imported into a number of email platforms today, but really only as a data source for a mailbox, due to the Outlook Archive file's inability to act as an immutable archive.



Conclusion

The Outlook Archive PST file provides those organizations looking to reduce mailbox sizes with a means to do so inexpensively. This does come at the cost of inconsistent archived data, the lack of any centrally searchable archive, the added cost of IT and user productivity configuring and supporting these files, and no true long-term retention. In addition, PST files are known to be prone to errors. Older PST formats are often corrupted because the file size has exceeded 2 GB file size, while newer formats aren't necessarily immune to file corruption either.

Method 2 – Exchange In-Place Archiving³

Microsoft Exchange offers an ability for users to manage their archiving themselves. The archive mailbox is an additional mailbox that must be enabled for a user's primary mailbox. The archive mailbox is accessible in specific Outlook clients and via Outlook on the web. This capability is specifically designed to help address archiving, but with a limited scope of functionality.

Versions Supported

- Microsoft Exchange Server 2016
- Microsoft Exchange Server 2019

Pricing

Microsoft's In-Place Archiving capability is only available with Exchange Enterprise client access license (CAL). Smaller organizations using a Standard CAL will need to purchase Enterprise CALs for those users participating in archiving. Additionally, there are specific Outlook client requirements as well.

This functionality also requires IT staff time to administer the initial configuration of the In-Place Archive, as well as any Hold policies.

Archiving Strategy

This is largely a manual process, much like the use of Outlook Archives. Users are able to see and interact with the archive mailbox as a second mailbox while in online mode and are able to move or copy messages between their primary mailbox and their archive mailbox. Server-side rules can be created to automatically move messages to the archive mailbox based on criteria such as age, content, size, sensitivity, flag status and more. Similarly, Microsoft Exchange Server supports applying an archive policy to a mailbox to automatically move messages to the archive mailbox. The default policy includes settings that move messages based on tags that can cause messages to never be moved or be moved after existing for 1, 2, or 5 years.

³<https://docs.microsoft.com/en-us/exchange/policy-and-compliance/in-place-archiving/in-place-archiving>

Compliance

Currently supported versions of Exchange support a Journal-based archive, but this is a separate function from the archive mailbox created by In-Place Archiving. Supported versions of Microsoft Exchange Server do offer both Litigation Holds (where the primary mailbox and its' corresponding archive mailbox are placed into an immutable hold) and In-Place Hold (where items meeting a given search criteria are placed on hold in both the primary and the archive mailbox)⁴. Any eDiscovery actions would need to be accomplished on a per-mailbox basis using an account with access to the primary and archive mailbox.

Storage

Microsoft supports the use of archive quotas to motivate the mailbox owner to self-manage the contents of the mailbox. By default, a quota message is sent to the archive owner when the archive mailbox reaches 90GB and the user is not allowed to send email when it reaches 100GB. The user is responsible for removing items in the archive mailbox, which minimizes the organization's ability to ensure email is retained for any needed duration unless one of the two Hold types previously mentioned are used.

Archive Redundancy

Since the archive mailbox exists within a mailbox database in Exchange, the question of whether the archived data is stored redundantly depends on the configuration of your Exchange server. If Microsoft Exchange Server's High Availability⁵ is in use and the mailbox database is configured within a Database Availability Group⁶, the archive mailbox data is redundantly stored. Do keep in mind that should Exchange services go down, in general, it's likely that the archive will be equally unavailable.

Archive Access

The content in both mailboxes is indexed and is included in Exchange Search queries – whether using a full Outlook client or Outlook on the web.

⁴<https://docs.microsoft.com/en-us/exchange/policy-and-compliance/holds/holds>

⁵<https://docs.microsoft.com/en-us/Exchange/high-availability/high-availability>

⁶<https://docs.microsoft.com/en-us/exchange/high-availability/database-availability-groups/database-availability-groups>

Archive Mobility

The archive mailbox is a function of Microsoft Exchange and, as such, provides no ability to easily move the archive to another messaging platform. It is possible to export the archive mailbox to an Outlook archive (PST) and then use the archive file as the medium to migrate the data. Keep in mind the elimination of any chain of custody or immutability still applies if an Outlook archive is used in this manner.



Conclusion

The In-Place Archive provides organizations with either a manual or automated means of moving messages to the archive, offloading older messages and those meeting specific criteria from the primary mailbox. The use of Litigation and In-Place holds adds an immutability factor that may be needed in some cases to aid with compliance and governance needs.

Method 3 – External Archiving Using a Third-Party Solution

Microsoft Exchange Server supports external email archiving solutions to address archiving needs beyond the basic functionality supported by the previous two methods. Solutions on the market today can be completely software-based (whether traditional software or a virtual appliance, either utilizing your infrastructure), leverage their own hardware for storage and compute or be provided as a cloud-based service.

(The statements made within this section are specific to MailStore Server being used for email archiving, while some general conclusions can be drawn for other third-party external archiving solutions.)

Versions Supported

- Microsoft Exchange Server versions 2003 through 2019

Pricing

With pricing as little as \$15 per user, using an external archiving solution designed to simplify the creation, configuration, administration, access to, and use of an Exchange archive is by far the least expensive option when compared to the cost of Exchange Enterprise CALs, or manually managing disparate PST files throughout the organization.

Archiving Strategy

The basis for nearly every external archiving solution is the Journal Archive, ensuring that all emails are copied first to the Journal Mailbox and then to the external archive immediately upon sending and receiving.

In addition, there is a second archiving strategy called mailbox archiving, which allows organizations to use archiving criteria to define which users, mailboxes, folders, and emails should be included. This can be used, for example, when you want to archiving emails which were sent or received before the email archiving solution was implemented.



Some companies choose to combine journaling with mailbox archiving. This way, journaling helps them to meet a growing number of compliance requirements, while mailbox archiving can be used so that users' personal archives have the same folder structure as the email client.

Compliance

Archived data is identical to the original email and maintains immutability through the use of SHA hash values of each message to validate emails have not been tampered with. Sophisticated retention policies can be created to maintain complete control of the periods for which various types of email are retained within the archive, helping to meet regulatory requirements such as with the EU's General Data Protection Regulation (GDPR).

Storage

The storage capacity needed by Microsoft Exchange Server can remain low because older email can be automatically moved to the external archive and deleted from within the Exchange mailbox database. Archived content is deduplicated to significantly reduce the effective storage requirements of the archive.

Archive Redundancy

During any outage of Microsoft Exchange Server, all archived emails remain available to the users. This reduces the negative effects of the given downtimes. Redundancy of the archive itself can be achieved through storage.

Archive Access

Archives are accessed via a web browser, a solution-specific client application, using an Outlook add-in or an IMAP server. Users can access their own mailbox archive and easily search through all their emails and attachments, with eDiscovery possible using a specific auditor account with access to all archived mailboxes involved.



Archive Mobility

Individual archived mailboxes can be exported to be made a part of another email platform. But the entire archive can also be made to function with a new email platform, eliminating the problem of “moving the archive” from the migration equation.

In addition, a good third-party solution can also archive emails from different email systems in a central archive. This is especially useful in hybrid-environments or migration scenarios (e.g. Exchange Server on-premises in combination with Microsoft 365).



Conclusion






















The use of a professional third-party archiving solution usually provides organizations with more flexibility, desired efficacy, better availability, improved compliance, enhanced accessibility and mobility and a lower cost of maintaining the archive.

Summary

Email archiving is one of the most important elements of a professional information management system and should be an integral part of your IT strategy. When selecting a solution to assist with this important task, always consider the individual strengths and weaknesses of the solutions. Start with your business needs, build a requirement list and find an archiving solution that meets your needs.

Microsoft provides customers of Microsoft Exchange Server with email archiving methods that, in many scenarios, fail to satisfy all the requirements for professional email archiving. For many companies, therefore, it makes sense to use a third-party email archiving solution instead.

The following table summarizes the individual strengths and weaknesses of the solutions discussed in this white paper:

| Archiving considerations | Method 1 Outlook AutoArchive | Method 2 Exchange In-Place Archiving | Method 3 Third-party archiving solution ¹ |
|-----------------------------------|---|---|---|
| Low costs |  |  |  |
| Flexible archiving strategy |  |  |  |
| Help with compliance requirements |  |  |  |
| Positive effect on storage |  |  |  |
| Archive redundancy |  |  |  |
| Convenient archive access |  |  |  |
| Archive mobility |  |  |  |

-  Fully applies
-  Applies
-  Partially applies
-  Applies to a lesser extent
-  Doesn't apply

¹ The statements made here are specific to MailStore Server being used for email archiving

About MailStore

MailStore specializes in the development of innovative email archiving solutions for small and mid-sized businesses. With tens of thousands of corporate customers in more than 100 countries, MailStore is a global leader in its field. MailStore's solutions are used by businesses from all sectors, as well as by public and educational institutions.

MailStore's ambition is to apply the best available technologies to support their customers in making efficient and sustainable use of email as one of the most valuable and comprehensive information resources of our time and to help them to meet a growing number of compliance requirements.

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