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**How to provide an Exchange backup/restore process
that is superior to “Brick level”**

Brick Level Backup/Restore

Brick Level Backup overview

While there are several ways to back-up an Exchange Database, the most common method is an online backup which utilizes Exchange's built-in backup features to create a secure backup. One alternate method is a backup of an individual user's mailboxes. This type of backup is called a Single Mailbox, or Brick Level Backup, and for the purposes of this document, the terms Brick Level and Single Mailbox Backup will be used interchangeably.

At first glance, this seems like it would be a very important feature as this allows for the back-up and restore of select users without touching the remainder of the user groups. As will be explained in this article, however, the negatives of performing this type of backup far outweigh the positives that may be achieved. Nevertheless, there is an easy and solid solution directly provided by Microsoft which we will explore.

Reasons why Brick Level Backup is not recommended

A brick level (single-mailbox) recovery requires a brick level backup. A brick level backup is not designed to fully protect an Exchange server. It is not an alternative to a backup/restore of the complete Exchange Database. This is because the brick method uses MAPI architecture, which cannot access all of the data in the information store. In other words, the sum of the mailboxes is less than that of the entire store. Thus, a brick level restore cannot be used to recover the Information Store after a disaster. If used, a brick level backup must be utilized in conjunction with a backup of the complete Exchange Database, in order to fully protect the server.

This means, in order to be able to restore the complete Exchange Information Store and to be able to perform a brick level restore you need to perform 2 completely separate backups which will require far more than twice the backup storage space and backup time.

The reason for this is that brick level backup capabilities rely on MAPI to access each mailbox to re-create all of the mailbox data in the message store. Performance can be as slow as 8MB/min. Studies show that a message is sent to an average of 4 users. Therefore, the size of the resulting data-file (it's not an information store) would increase dramatically because the notion of a single-instance does not apply. For example, using the 4:1 ratio, a 25GB Information Store could end up occupying 100GB. And that is in addition to the monolithic backups done for disaster recovery!

Disadvantages of MAPI-based brick level backup

In the following list you will find the most important reasons to avoid a MAPI based brick level backup.

- Requires two separate Exchange backups.
Puts additional unnecessary load on the Exchange Server
Requires a multiple backup storage space compared to the standard backup of the Exchange Information Store
- Performance is slow and might exceed the available backup window.
- Each Mailbox which should be protected needs to be assigned with admin rights individually. Resulting administrative costs
- MAPI backup doesn't allow to backup/restore all Exchange elements. For example public folders are not covered.
If you offer brick level backup/restore your customer will expect to be able to restore on any level that is required. As this is not possible based on a MAPI based backup process, this is a potential SLA problem for the Service Provider.
- Brick level backup is an optional functionality which will increase the TCO of backup solution. This functionality is already provided with Exchange 2010 by default.

MAPI based brick level backup will increase the complexity, potential risk, and required administrative efforts of your service.

Best Practice Exchange Protection

Goal

The goal is to protect Exchange without the need for a MAPI backup, yet still being able to restore on different levels for the complete Exchange database, single mailboxes and single Exchange items like emails, contacts etc.

Recommended Exchange Backup Strategies

The best and most efficient way to realize this is to back up the complete Exchange database in order to protect against a disaster where the entire Exchange may need to be recovered. You will want to utilize Microsoft Exchange 2010 built-in recovery functions to recover single mailboxes or single Exchange items. Microsoft Exchange 2010 offers this functionality out of the box.

Single Exchange items or single mailboxes may be restored directly on the Exchange server. Single items can even be restored by any user directly in the outlook client. The default retention time is set to 30 days. In this way every user is able to restore any deleted single items such as, emails, contacts, calendar, and so forth.

Links to additional information how to restore Single Exchange items or single mailboxes

- <http://blogs.technet.com/b/exchange/archive/2010/04/26/item-recovery-in-exchange-2010.aspx>
- <https://help.exchangemymail.com/entries/20277356-how-do-i-recover-deleted-items-outlook-2010>