Email Recovery: Doing More with Less

How to Save Time and Money when Recovering Email

Kroll Ontrack®

An Altegrity Company

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Throughout the world, email has become the lifeblood of businesses. It is a vital means of communication that is used at every level of business life. The use of email makes employees and businesses more efficient and it undoubtedly has had a huge impact on globalization. Overall, it is a very cost-effective means of communication, but there are definitely costs involved; especially the "hidden" costs that come with backup and recovery efforts. In today's ever-changing and often uncertain global economy, businesses must try to identify and control those costs.

This whitepaper shows how the costs associated with recovering email messages from Microsoft® Exchange Server backups can be significant. It also provides Exchange administrators and IT administrators with practical information on how to minimize those costs.

The Cost of Recovering Email

According to email archiving company, The Radicati Group, there are 55 billion email messages being sent daily (not including spam).[1] Clearly, we are awash in email. It dominates communication in today's business environment. The number of corporate email messages exchanged is projected to increase to 233 per user/day in 2012.[2]

Information exchanges via email are formal records often containing vital information that can be important in tracking key events or employee behavior. Electronically stored information (ESI) such as email messages can be considered valid legal documentation. All of this has led to the many business, regulatory, and legal requirements for archiving and recovering email messages.

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The sheer number of messages and the importance of proper archiving and restoration leads to the burden of increased costs for companies and IT departments. The costs can be broken out into several categories: storage costs, infrastructure costs, time costs, and human resource costs. The following sections describe the costs involved in each category.

Storage Costs

Whether due to business, regulatory, or legal reasons, most businesses today create backups of their Exchange data. Due to limitations in the native Exchange backup programs and most of the available third-party programs, many administrators are forced to take a two-pronged approach to backing up the data; they do a full backup along with a brick-level backup of certain very important mailboxes, such as the mailboxes of top executives or managers. The two backup methods are described below.

- **Full backup.** In a full backup, both the Private and Public Information Stores and associated log files are backed up. This kind of backup is ideal for disaster recovery – should a server or hard disk crash, the entire Exchange database can be restored, and so all email and mailboxes can be restored as well. The drawback to this method is that without a recovery server, email recovery is an all-or-nothing proposition. You cannot restore individual mailboxes or messages.

[1] Grossman, Anna Jane. (n.d.). Experts reveal e-mail nightmares, safety tips.
[2] The Radicati Group, Inc. (August 11, 2008). The Radicati Group, Inc. Releases 'Email Security Market, 2008-2012' Study, [Press release].

- **Brick-level backup.** In a brick-level backup, one or more individual mailboxes are backed up. While this gives you the flexibility to restore the individual mailboxes, you cannot restore a full Exchange database using a brick-level backup. Also, because of inefficiencies in the way the data is backed up, brick-level backups take significantly more storage space than full backups, adding to your storage costs.

So, as an administrator, the only choice you are left with is doing just a full backup. But, then due to the shortcomings of that method, you're saddled with the expense of having a recovery server available so you can restore individual mailboxes and messages. Or, you can do a combination of a full backup and a brick-level backup. However, that route leaves you with the added expense of storage for the brick-level backups.

Administrators have to balance the need for speedy, time-saving backups against the downside of mail disruption when deciding whether to use online or offline backups.

The question begs to be asked: Do you really want to take up your valuable storage space with bloated backups? Whether you are using a home-grown storage solution, a hosted solution, or a high-end customized enterprise appliance, you should protect your storage investment by extending the life and bandwidth of your solution. Regardless of the solution you are using, you can maximize your available storage when you minimize the amount of space needed by your backups.

Infrastructure Costs

As discussed above, there are two main methods of backing up Exchange data. If you do a full backup, the process to restore individual mailboxes and messages from EDB files is complicated and can be expensive. First, you have to build a recovery server that is a duplicate of your production Exchange server. Then, you restore the backup to the recovery server. From the recovery server you can export individual mailboxes to PST files and search through those PST files for the messages you need to recover. After all of this, you can finally copy messages back to the production server. This process is expensive and difficult to do, and the restore cannot always be accomplished. Since the recovery server must be set up exactly like the production Exchange server, if configuration information about the Exchange server has not been well-documented, you will not be able to restore the backup to the recovery server. Additionally, the infrastructure costs of buying and maintaining a recovery server are steep. As an alternative, you could build a recovery server only when you needed it; but, that could take an entire day, which is generally impractical in a corporate environment in which information is needed quickly.

Time Costs

Besides deciding whether to use full backups, brick-level backups, or a combination of the two, administrators must also decide whether to do the backups online or offline. In an online backup, the server continues to function while the backup is performed, so mail can continue to be sent and received. In an offline backup, the server is brought down during backup; therefore, mail service is disrupted. Online backups have the benefit of not disrupting the email service while offline backups have the benefit of speed. So, administrators have to balance the need for speedy, time-saving backups against the downside of mail disruption when deciding whether to use online or offline backups.

Another way that time costs add up is when doing brick-level backups. They take far more time to complete than a full backup does. For example, a server with 400 mailboxes can take about one hour to do a full online backup. The same server, doing a brick-level backup of all of those mailboxes, one at a time, can take 18 hours. That's a significant and costly difference.

A final way that time costs can add up is when you need to have a recovery server for restoring mailboxes and messages. Time must be taken to set up and configure the recovery server so it's identical to the production Exchange Server. Then the full backup must be restored to the recovery server before you can even begin searching for the items that need to be restored.

Human Resource Costs

Going hand in hand with the time savings is the savings in human resource costs. Someone has to create the brick-level backups. Someone also has to take the time to search for and restore the lost email messages. Someone has to fulfill the email recovery requests from various individual users and from the Legal Department. Decreasing the time your administrators spend backing up, searching for, and restoring email messages allows them to spend more time on other priorities.

So, how much can you save just in restoration costs by using a product that allows you to easily find and restore items directly from an EDB file or a disk or tape backup? The box below illustrates the potential savings you could realize. In the example, we looked at an average company in a metropolitan area. As you already know, "one-size-fits-all" does not apply when it comes to requests for email recovery. Some requests take significantly longer to process. Most requests are fairly simple to complete. However, requests from your Legal Department are usually complex. Some may take only a few hours to process, but the more difficult ones could take 120 hours or more! To make the calculations easier, the requests from Legal fall into the "Hard" category and we used an average of 30 hours for those requests.

How Much Does Recovering Email Cost You?

Costs can sneak up on you. To see how much the time spent on recovering email messages can cost in a year's time, we looked at an average mid-sized company in a major metropolitan area.* The IT administrator at our example company manages 6000 mailboxes and only gets about 10 requests per month for email recovery. Of those requests, 20% are easy to fulfill, 60% are a little more difficult, and 20% are much more difficult. See below for an explanation of the levels:

Easy: 20% of requests are for an individual message where the backups are still on-site.

Medium: 60% of requests are for an individual message where an index exists but the backups are off-site.

Hard: 20% of requests involve multiple mailbox accounts over varying amounts of time. The backups are usually off-site and the contents may not even be cataloged.

The following table shows the calculations for the total yearly cost of recovering email at our example company.

	Difficulty of Recovery		
	Easy	**Medium**	**Hard**
Avg. number of recovery requests received each month	2	6	2
Avg. number of hours to complete each request	x 3	x 6	x 30
Total number of hours spent each month on requests	6	36	60
Hourly cost of an IT administrator (based on an average total yearly cost, including salary and benefits, of $100,000)	x $48.08	x $48.08	x $48.08
Number of months in a year	x 12	x 12	x 12
Avg. cost per year for each level	$3,461.76	$20,770.56	$34,617.60
$3461.76 + 20770.56 + 34617.60 = $76,158.72* Total avg. time cost per year for recovering email			

*Your results may vary depending on your specific circumstances.

If the administrator in our example could cut the time spent searching for and restoring email by one-third, that would save the example company over $25,000 in a single year! This savings in the cost of human resources would be on top of any other savings due to reduced storage, infrastructure, and time costs.

How much could you save? Plug your numbers into the table in the example to get an estimate of your potential savings.

How Ontrack PowerControls™ Saves You Time and Money

A product such as Ontrack PowerControls from Kroll Ontrack can dramatically cut the time and money spent on email restoration. Ontrack PowerControls allows administrators to restore individual messages, mailboxes, attachments, and even notes, contacts and tasks, from a previous full disk or tape backup or from a snapshot. The software can directly read EDB files, so there is no need for doing a brick-level backup to restore individual messages and mailboxes. It lets you search across all mailboxes in an archive EDB file, rather than searching one mailbox at a time or bringing an old backup or snapshot back online for analysis. You can search by a variety of criteria, including keywords, subject, date and specific users. Individual mailboxes need not be backed up because they can be restored directly from an EDB file. Additionally, Ontrack PowerControls does not require you to change your Exchange environment or your normal backup procedures. And if you happen to change your backup procedures, it will work with them as well.

Ask Yourself These Questions

When you are choosing software for email restoration and recovery, ask yourself these questions:

- **Is it important that you minimize the amount of storage space and the costs required to store and archive your backups?**
  Ontrack PowerControls eliminates the need to back up mailboxes individually, thereby completely eliminating the space, cost, and time associated with performing brick-level backups.
- **Would it be beneficial to greatly reduce the time required to restore an individual mailbox?**
  Ontrack PowerControls restores mail items from a previous full backup directly into your production Exchange server or into a new or existing PST file. This eliminates the extra steps required to separately import mail back into Exchange or Outlook.
- **Would you like to minimize the time it takes to back up the Information Store?**
  Ontrack PowerControls completely eliminates the need to back up mailboxes individually. Many companies today perform a full Exchange backup and then run a second process to back up "Very Important Mailboxes (VIM)" individually. Ontrack PowerControls eliminates the need for this second process.

Ontrack PowerControls is an efficient and cost-effective solution – based on the size of your implementation, it could pay for itself the first time you use it!

- **Would it be useful to be able to easily locate all email matching specific criteria – keywords, specific user, subject, or date?**
  Ontrack PowerControls has an Advanced Find feature that can search across all mailboxes in an archive EDB file, rather than searching one mailbox at a time or bringing an old backup back online for analysis.
- **Would you like to cut the time it takes to back up an individual mailbox to ZERO?**
  Because Ontrack PowerControls can restore mailboxes directly from the EDB file, there is no need to do bricklevel backups. This step in your backup process can be eliminated!

What to Do Next

Whether a mistake, a malicious effort, or a natural disaster, accidents happen and data may be lost. As we have learned, recovering that data can be an expensive task. Ontrack PowerControls software offers IT Administrators a time and money saving tool to do it themselves. The best way to see the value of Ontrack PowerControls is to try it yourself. Once you try it, you will see how quickly and effectively it can find and restore items from your Exchange backups or snapshots. To download a free trial version, visit us at www.krollontrack.com, or for more information, call us at 800 645 3649.

If you have severely corrupted EDB files, or you are faced with a difficult or complex discovery request from the legal department, or you decide that you would like industry leading expert assistance on your electronic evidence data collection, processing, or production matters, contact Kroll Ontrack by calling 800 347 6105. To learn more about all Kroll Ontrack products and services, visit us at www.krollontrack.com.

For more information, call or visit us online.

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