



Raxco Software White Paper

Automated Defragmentation of Microsoft Exchange

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PerfectDisk for Exchange delivers better Exchange data store performance while saving Exchange Administrators huge amounts of time.

Introduction

Microsoft Exchange 2007 has now been released and its adoption and use will increase as Exchange Administrators make the change to the mandated 64-bit platform needed to support the application. While many changes were made to Exchange 2007, the defragmentation of the data stores and the recovery of excess "white space" in the data store is still a cumbersome, time-consuming and labor-intensive process. PerfectDisk 10 for Exchange delivers better Exchange data store performance while saving Exchange Administrators huge amounts of time.

Exchange Performance and Storage Problems

There are a couple of problems with Exchange 2007 that affect its performance and the amount of storage it uses. The first problem is that the data stores grow dynamically. While this is probably a good idea, it has some adverse consequences. Data stores tend to be in the multi-gigabyte size range. While it may be possible to have a data store that is contiguous upon creation, the likelihood of it remaining contiguous is just about zero. The Windows file system treats a growing data store just like a growing file. It will grow the data store wherever it can find enough free space. If the disk hosting the data store has fragmented free space, the data store will fragment as it grows. As the number of data store fragments increases, access time to the data will be slower.

The second problem with Exchange is storage. While most organizations utilize a corporate spam filter, a good bit of spam still gets through and is stored in the Exchange data stores. This causes an exponential growth in the size of the data stores as they dynamically grow to accommodate the messages. Even when deleting large amounts of spam or obsolete messages, the free space created remains the "property" of Exchange and it is not freed up for non-Exchange use. The nightly maintenance online defragmentation does not reclaim the free space created when records are deleted. As a result, Exchange data stores can tie up 10% to 50% more storage than necessary.

The Traditional Solution

Microsoft recommends a solution to the above problems that many Exchange Administrators ignore because it is cumbersome and requires the Administrator to be physically present for much of the process. The process is an offline defragmentation/compaction of the Exchange data store using the *Eseutil* utility. The Administrator needs to identify some scratch disk space at least equal in size to the data store being defragmented/compacted. The data store must be dismounted and copied to the scratch space. The offline defragmentation is done through the command line, and if you are not familiar with the *Eseutil* commands and syntax, it is easy to make a mistake which may

result in the job not running. The following is an excerpt from the Eseutil instructions on defragmentation and compaction:

```
Option Description -----  
/b<database> Make a backup copy under the specified name  
/t<database> Set the temporary database name (the default is  
Tempdfrg.edb)  
/s<file> Set the streaming file name (the default is NONE)  
/f<file> Set the temporary streaming file name (the default is  
Tempdfrg.stm) /p Preserve the temporary database (in other  
words, do not instate)  
/o Suppress logo /i Do not defragment streaming file
```

If all of the above is done correctly, the defragmentation/compaction of a local data store with Eseutil speeds along at about 4GB per hour. When the job is complete, the Administrator must remount the data store and then you are good to go.

Needless to say, there are a number of reasons this may never happen. First and foremost is the unavailability of email on the data store while it is offline. This makes a fine argument for smaller data stores, since it will take less time to do this sort of maintenance. Smaller, more numerous stores have been possible since Exchange 2003.

The manual effort and the time requirement are the other major reasons Exchange data stores are not adequately maintained. To execute the above process on a 20GB store would require a minimum 5 hours of Administrator time, and the administrator needs to be physically present at the end of the job to remount the store.

PerfectDisk for Exchange...A Better Solution

PerfectDisk for Exchange lets Administrators automate the defragmentation/compaction of Exchange data stores so their time is freed for other tasks. With PerfectDisk for Exchange, the Administrator identifies a path to the scratch disk space and specifies when the defragmentation/compaction should take place with the PerfectDisk scheduler. PerfectDisk will start at the designated time and dismount the specified data store. It will verify there is adequate space in the scratch area and, using Eseutil, will copy the data store to the scratch area. PerfectDisk will then execute the proper commands to defragment/compact the data store. When the defragmentation/compaction completes PerfectDisk remounts the data store and can even send an email indicating the job is done.

There are some other advantages to using PerfectDisk for Exchange. While PerfectDisk for Exchange automates the offline defragmentation/compaction of the data stores, it also does a great job of defragmenting any other non-data store files on the Exchange server. As previously mentioned, data stores will fragment as they grow. An online defragmentation of the host

With PerfectDisk for Exchange, the Administrator identifies a path to the scratch disk space and specifies when the defragmentation/compaction should take place with the PerfectDisk scheduler.

disk with PerfectDisk for Exchange defragments all the files, intelligently positions the files with PerfectDisk's patented SMARTPlacement™ technology, and consolidates all the free space on the disk. The contiguous free space means the Exchange data stores will refragment more slowly since the file system can find contiguous space to accommodate the data store growth.



PerfectDisk for Exchange

Summary

The defragmentation/compaction of Exchange data stores is often ignored because it is a manual and time-consuming task. Administrators do not have the time to set up the Eseutil utility and execute it. As a result, data store indexes become inefficient as messages are added and deleted with a corresponding decline in performance. The lack of data store compaction means data stores are occupying storage space well in excess of their real needs. In the longer term, this costs the organization unnecessary expenditures as the storage capacity grows. Even with aggressive spam management, a good bit of spam still makes it into the data stores, expanding the storage requirement and adding to the performance issue.

PerfectDisk for Exchange remediates these problems by providing Administrators with an easy-to-use tool that automates the defragmentation/compaction of data stores. This frees Administrators for tasks other than babysitting Exchange maintenance. In addition, PerfectDisk for Exchange will defragment the non-data store files and free space on the disk which has the net effect of improving disk read/write performance and slowing new refragmentation.

PerfectDisk for Exchange is one solution that can have an immediate and positive impact on Exchange performance for the user and Exchange maintenance for the Administrator. Both are good for the enterprise.