



Mailbox Size Management

A Guide to Capacity Control in Email Systems

Introduction

Planning modification to any email system takes just 4 easy steps:

1. Understand the major drivers
2. Understand the costs and degree of urgency
3. Analyze solutions
4. Decide on a tactical and strategic implementation for your organization

This paper provides information which will help you reach step 4 when planning a solution for Mailbox Size Management.

1. Understand the Major Drivers

The Inevitable Growth of Email

It comes as no surprise to any email administrator that most Microsoft Exchange messaging systems are growing – all organizations now rely on email in some form and this reliance continues to grow. The email administrator must also cater for the ever-increasing demands on Exchange resources as users are expecting high standards of service to support their dependence on email.

Research shows email system growth to be around 40%, this is the result of two simultaneous factors:

- Users are sending and receiving more emails
- The average size of emails is increasing

The increase in email size is particularly striking. Today's emails are seldom larger than 10MB or 20MB but the size is increasing rapidly. According to Ferris Research over the next 2 years mail systems will have to contend frequently with attachments in the range of 50MB to 200MB.

Organizations require a comprehensive strategy to tackle the increasing number of email messages and to gain control over the size of individual email messages, ensuring policy and performance are not compromised. This is known as a Mailbox Size Management Strategy.

Overloaded Exchange Stores

The value of email information has risen considerably as email has become the most widespread medium of business communication.

Email is critical business information, business protocols are changing dramatically, as are regulatory, technology, and records management requirements.

Exchange servers have to be fast and reliable - no matter how much your organization's email traffic increases and fluctuates. As Exchange systems store more and larger items, they become slower, affecting users' productivity, and increasing the Exchange Servers back-up and restore times significantly.

The right Mailbox Size Management solution should enable you to meet Service Level Agreements (SLAs) and performance targets.

Too Much Reliance on PSTs

Personal Store files (PSTs) are part of Outlook and are used often to give each user unlimited storage on their personal storage areas, keeping the central Exchange Server free of excessive information. Relying on PSTs for corporate mailbox management may lead to ineffective management and storage of email.

Removing information from the Exchange system into PST files has proved to be only of short-term benefit and has then caused a number of problems for Administrators:

- **Legally:** They can no longer find information easily, as it becomes difficult to locate all the instances of the PST files and even more complex to then search for the information they contain. Decentralized email obviously increases exposure to legal risk as it is not subject to normal content controls or archiving policy.
- **Technically:** PST files are simply not as reliable or reliably supported as the Exchange information store. For example, there is a well known 2GB limit to PST files before the release of Exchange 2003. If the PSTs are not included in the back-up policy, which happens frequently, the data runs the risk of total loss.



Most of the current debate on PSTs concerns their use in the longer term and the restoration of email information to the Exchange system or archive, so that organizations have legal and technical control over the valuable data contained.

It is vital for any organization which uses PSTs for capacity reasons to address their risks and commence a strategy to find, assess and archive their contents onto more appropriate storage media along with emails from Mailboxes.

The Cost of Increasing Email Size

Whilst users are keen to increase their use of email, the negative effects can be very evident to them. Sending and receiving larger emails can lead to:

- An increase in the time taken to send and receive messages, especially for remote users or users on poor bandwidth connections.
- A reduction in the performance of the Exchange Server(s).
- An unacceptable increase in system restore times (i.e. a failure to meet SLAs).
- The use of PSTs to avoid system quotas, with resultant problems.

All of these complaints can result in an increased cost of maintaining the Exchange system and a drop in productivity for anyone using it.

2. Understand the Costs and Degree of Urgency

It is imperative that the Mailbox Size Management solution takes account of the organization's messaging environment. Decisions made by the IT department regarding the model selected should be in line with financial objectives and the impact on users should be positive.

Low Total Cost of Ownership

Any system that impacts on the way a user works (e.g. training, large deployment costs, and new procedures) means that much of the benefit of the solution has to be offset against the cost of implementation.

Some organizations have adopted solutions to the mailbox capacity problem that have been adapted from other types of storage management or archiving solutions. These systems invariably remove information from the Exchange system and also impact the way a user operates. The approach should be based on minimal impact and low Total Cost of Ownership over the lifetime of the system:

- Deployment is centralized and does not require end-users to install software
- Low TCO is key – integration with resident storage and messaging infrastructure is most important
- Centrally managed decisions and rules controlling capacity management

Meeting High Standard of Service Demands

Email users expect ever increasing standards of service. The time taken to send and receive messages, poor remote user performance and bottlenecks in inter-server traffic has never been acceptable.

Now capacity issues are about to increase dramatically. Ever larger files including moving images and voice messages have started to intermingle with traditional email traffic. Is your organization ready to handle these message sizes?



3. Analyze Solutions

This section looks at Email Archiving and Email Compression solutions.

The First Approach – Modern Archiving Technology

Moving information from Exchange to another technology for storage solves the problem of capacity management. However, a simple 'back-up then destroy the original' approach, without a streamlined strategy for archiving to storage, often imposes onerous new working practices on end-users.

Transparency to the end-user is crucial to archiving seamlessly. Archived emails should be managed centrally: their physical location is irrelevant to the end-user.

In addition, an archive based capacity management solution should be future-proof with respect to integration between the Exchange system and multiple storage media, often achieved via interfaces with storage management software.

Archiving enables large amounts of less frequently accessed data to be pruned systematically and regularly from both exchange stores and PSTs. Archiving provides full indexing services at the time of archiving to enable rapid and accurate search at a later time. Archiving further reduces capacity requirements in the archive store itself when repeated attachments are stored as only one instance.

Archiving provides one of the best solutions since, unlike back-up, it maintains a direct link between the email user and his/her archived messages.

Capacity Control with Increased Productivity

Moving emails from the server is an obvious benefit for an email administrator. For the mail users the benefit comes through features which allow archives to be accessed directly and enable the mobile user to carry archived data with them when they are off-line.

Archive solutions with these features do increase user productivity since there is no longer any need for mail users to worry about what they should move or delete in order to meet the arbitrary size limit that has to be imposed on them by an administrator who is not using archiving. At the same time the users maintain access to all their email, whether it is new or old, whether it is still on the mail server, or stored on other linked storage devices.

At the time of writing email Archiving seems to provide the optimal solution for many organizations, but there is at least one other approach which should be considered. Email Compression provides performance enhancement and is an ideal first step towards an archive solution.

A Second Approach - Reducing Average Email Size Using Compression

Research has shown that the growth in message size is caused, not from additional text in the body of the message, but from an increase in the number and size of attachments.

Studies undertaken by C2C suggest that a saving of 30-50% in average message size can be achieved if compression technologies are applied to email systems. The effects of reducing the size of each email include:

- Faster messaging system
- Higher productivity in the office
- Significant improvement in performance for remote workers
- Drastically reduced Exchange Server restore window
- Reduced storage requirements (compression can even enhance an archive solution)



Compression Control – Who’s Responsibility?

Many organizations provide users with a compression utility on the desktop, making it the duty of the user to zip some or all emails before sending and to unzip them when opening. Without obvious benefit to themselves, business users often ignore this time consuming task. It can be argued that size management is an administrative issue and that the end-user’s responsibility for zipping and unzipping files should be reduced or even eliminated.

It is therefore up to the administrator to find a solution which carries the least overhead for the end-user. End-users benefit from a seamless view in which important details such as a Microsoft Word or Excel icons remains unaltered. The benefits of compression are obvious to many Administrators; however the difficulties in achieving it are often a surprise to organizations.

All Access Points Covered

Many organizations use Outlook Web Access (OWA), a web client with greatly extended functionality in Exchange 2003. OWA provides organizations with the ability to have an ‘office without walls’, encouraging remote email access and reducing deployment costs for the Exchange client. However many organizations have found important users impacted by poorer bandwidth connections. Compression is a simple way to improve this situation.

When considering a centralized strategy, not only should all access points to the Exchange system be able to compress and decompress all attachments seamlessly at the point in time that they are sent/viewed, but historical information should also be compressed. This will maximize all available storage space.

Help Optimize Exchange Performance

The strategy of reducing the size of each email so that it takes up as little system resource as possible, may be worthwhile without archiving for certain organizations. Return on Investment is a key guide to success, and research has found Exchange users benefiting from a 36:1 return, just from implementing autocompression (Giga Information Group).

For optimal benefit to be gained from compression, it is crucial that the strategy is specifically designed for whole Exchange messaging systems and that it covers compression and decompression at the major touch-points of the network, remote clients, SMTP gateway, and stored email repositories. It must also allow for centralized control and transparency for the end user.

4. Decide on a tactical and strategic implementation for your organization

A Mailbox Size Management strategy will enable Exchange to meet your organization’s performance and capacity demands by:

- Allowing users unlimited storage
- Managing and retaining email efficiently according to centralized rules
- Adhering to strict and achievable server restoration times to meet SLAs

This will provide visible benefits to the end-user, while the growth of the system remains within the control of the Exchange Administrators.

A strategy for mailbox size management should be an adaptable solution which helps the administrator to resolve the issues by both tackling pressing need, and planning solutions to not only alleviate, but benefit from, other questions raised by increased mail usage and mail size.



Drivers, costs and solutions considered

Now you now need to:

- Look internally at your organization and its existing email system
- Do some simple implementation and lifetime costing of suitable solutions
- Decide on the final implementation that fits your needs best
- Consider a short term tactical solution as a first step
- Plan timescales for implementation

Don't lose track of the fact that you will bring significant benefits to email users through making the right choice.

The following pages provide information about C2C's Archive One and Active Mail Tools products to help you develop a Mailbox Size Management Strategy. These include:

- Archive One
- MaX Compression Enterprise

- The End -



Technical Notes on Exchange 2003

There has been a degree of speculation about the inclusion of 'compression' within Exchange 2003. In fact, test labs have shown that in-built compression only reduces traffic between Exchange 2003 and Outlook 2003; no other combinations of technology are helped by native Microsoft in-built compression. The 'compression' is actually improved data compaction between the client and server, and has no impact on stored data or data transmitted over the backbone.

Microsoft has helped to clarify the situation by issuing the following statement from Chris Baker, Group Product Manager for Exchange at Microsoft Corporation: "MaX Compression Enterprise has demonstrated that it can aid deployments of Exchange 2003 through its automated data compression. We support C2C as a Microsoft Gold Certified Partner as it continues to help Exchange 2003 organizations."

To read the full Microsoft and C2C press release visit www.C2C.com.

References

Ferris Research Group www.ferris.com.

Giga Information Group (now Forrester) www.forrester.com

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How can I find out more?

For more information please visit <http://www.C2C.com> or email info@C2C.com.



Appendix 1: Archive One Policy

Archive One Policy, a second generation multi-criteria archiving solution, enforces e-Policy by managing and retaining email in chosen storage media for secure access and retrieval. Archive One Policy identifies PST size and automatically applies archiving and compaction to the file - reducing potential damage, loss of data and disk space usage. There are a large number of customer-selectable, centrally set criteria of what to archive. This includes selections based on date, size, attachments, subject, etc., which can be varied according to the requirements of a particular user or group of users.

Benefits of Archive One:

1. Reduces storage capacity requirements for mailboxes and PST files
2. Improves user productivity
3. Reduces the need for mailbox quotas
4. Provides email users with direct access to Archived messages from their normal Outlook interface
5. Long term, secure retention of email
6. Fast and easy, search and retrieve messages through user driven interface
7. Easy to install, use and manage
8. Selective archiving and mail cleansing enabled by powerful rules set
9. Keeps single copies of attachments for efficient storage

Key Features of Archive One:

- Archive messages and attachments outside Exchange
- Replace messages and attachments with small message links
- Index email and attachments for fast search/ retrieval
- Support for proximity searching
- Support wide variety of storage media (SAN, NAS, CAS, Optical, DVD, Tape or WORM)
- Straightforward, powerful backup/DR strategy
- Compresses archives for maximum efficiency
- PST archiving and migration (automatically locates local PSTs)
- Support local archives on laptops
- Public folder archiving and management
- Multiple archive repositories with independent retention periods
- Full audit trails
- Wide range of easy to use archiving criteria
- Choice of 'client' or 'no client' software to ease deployment
- Ability to access archive from any Exchange client with OWA compatible browser
- Admin and/or User level retrieval from archives
- 'On-hold' feature for documents under legal review
- Multiple admin levels for greater security
- No dependency upon SQL server
- Advanced permissions management to ensure mail data security
- User driven "archive now" options
- Powerful interface for integration with other applications
- Admin 'windows-script' interface for extended automation
- Easy to install, use and maintain

For more information and free 30-day evaluations please visit www.C2C.com.



Appendix 2: MaX Compression Enterprise

MaX Compression Enterprise gives immediate gains in Exchange system performance by rules-driven compression of email attachments. Automated zipping and unzipping of attachments is invisible to the user and shows measurable benefits to the organization. Running on over 2.5 million desktops world-wide, in 2000+ user organizations, MaX Compression is the benchmark for auto-compression of Exchange and has an impressive track record in all industry sectors.

1. Reduces the Exchange Information Store size by up to 50%
2. Reduces bandwidth requirements and transmission times for messages by up to 89%
3. Reduces network bottlenecks between Exchange Servers
4. Benefits remote user productivity
5. Invisible to user
6. No user training required
7. Centralized administration
8. Complete suite of products for a total benefits solution

For more information and free 30-day evaluations please visit www.C2C.com.

