



Auto-Zipping the Enterprise

Gaining optimal benefits from automated compression

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Overview

Investing in an enterprise-wide email auto-zip solution allows companies to reduce the total cost of ownership of their messaging system and to make significant increases in user productivity. The lower cost of ownership is derived from reduced storage and bandwidth demands. The increased user productivity comes from automating the zipping process and improved performance of the messaging system, by reducing delays in sending/receiving emails.

The heart of this technology is a completely integrated solution of email embedded zip technology, which carries its benefits across an Enterprise.

Auto-Zipping

The key elements of the email embedded zip technology approach can be summarized as:

- Embedded solution of zip/unzip technology within mail clients, remote clients, mail servers and gateways
- Benefits 100% assured by auto-zip's invisibility to the user. No user training or time consuming interaction is necessary
- Administrator defined rule set, for controlling which mail attachments are zipped and which not

When deciding at what scale to implement, consideration must always be given to users:

- Enterprise level zipping must be capable of delivering productivity benefits to the value of thousands of \$ per year. It must not cause delays by invoking interactive zip/unzip applications that require time, and therefore reduce employee productivity
- Auto zipping/unzipping should not require the users to think, be trained or phone the help desk. It should accommodate a user's normal practice e.g. cut and paste, drag and drop or insertion of attachment into an email
- Auto-zipping should not adversely affect user productivity. Some tools work differently from others
- Users should be unaware that zipping or more importantly un-zipping has taken place

The 'Enterprise' implementation provides total 'ring-fencing' of the email environment and gives maximum ROI when implementing all modules of the solution. However, critical pain points such as addressing server storage or reducing remote user bandwidth can be achieved by implementing part(s) of the solution. This unique flexibility gives the customer the opportunity to reduce resource demands, increase user satisfaction and achieve a decent ROI.

Zippping is commonly regarded as the solution to email attachment size issues and is a major step towards managing email system capacity.

Attachments in the Enterprise

You don't need us to tell you that users' mailboxes are growing at a phenomenal rate.

Attachments are a major source of this growth – whether best practice or not, it's all too easy to attach a document for discussion, for approval or just for information. With information-rich applications it's now the norm to send spreadsheets, graphics or other large files without thinking about the effects on the system.

So, sending email attachments has become standard practice, but the infrastructure to store, manage and deliver the messages is feeling the pain. Users have grown to expect an excellent quality of email service wherever they are, whatever they're using, but can they be relied on to help manage the consequences of their actions? With many users residing on the LAN, they may be unaware of the need to manage capacity until they work from home or travel, or notice the network's slowing down, or receive a notice that their mailbox is over-sized and they need to reduce it.

Zippping an attachment will reduce its size by up to 80%. The net effect on a mailbox by zippping attachments is to reduce its overall size by between 40-55%.



But does manual zipping really happen?

C2C carried out an informal survey of corporate non-technical email users across various sizes of company. 93% of them said they did not bother to zip attachments sent on the LAN, even though a manual zipping application was available. 35% said that they did make the effort to manually zip attachments when traveling or working from home. Less than 20% said they did zip attachments being sent to third parties manually, e.g. customers or users they knew were working in a lower bandwidth environment such as at home.

Automation of zipping (and unzipping) provides 100% assurance that the process takes place if appropriate. Wherever the user is, and whatever they choose to do with the attachment e.g. save, amend or forward it, seamless Enterprise-scale auto-zipping and unzipping makes sure appropriate measures are taken. However, some auto-zipping tools adversely affect system resources and may actually slow down the desktop compression process.

Email across the Enterprise

In order to visualize the extent of the need for auto-zipping fully, we should consider email as occurring in a ring-fenced environment.

Email is created, communicated and stored within this environment and its points of access are the networked email client (Outlook), remote client (OWA), the SMTP Gateway and the Exchange Server. Documents and mail items exist within the email system; we know when attachments are entering into it, when they are being removed from it and when they pass to other systems.

Enterprise level Email compression can be reached successfully by enforcing rules-based zipping or unzipping at all the access points. To do this one needs to control the zip/unzip management at these points including Client, Remote OWA, Gateway and Server. To enforce an effective compression policy we need to control when items are zipped, unzipped or not zipped as is most appropriate. For this we need an enterprise-wide administrator-managed rule-set, and we need to ensure zipping/unzipping when items are cut & pasted, drag and dropped or simply inserted. To achieve this, a total enterprise level approach is required to email zip management.

Only by controlling all these aspects can an organization truly gain maximum benefit. The optimal outcome of this is includes cost and productivity savings, zero user impact and no training requirements.

Total Cost of Ownership and ROI

The value of Zipping: compression of an attachment makes it up to 80% smaller.

Benefits:

- Productivity (active at desktop)
 - Time taken to send
 - Time taken to receive
- Reduction of existing Information Store size (legacy compression)
 - Less disk = less cost
 - Less disk means longer service life for existing kit
 - Smaller public folders mean faster replication
 - Smaller information store means faster backup and restore



- Reduction in storage demands through smaller message footprint (active at desktop)
 - Information store grows more slowly
 - Defers upgrading h/w components or replacing the Server
- Reduction of bandwidth demands (active at desktop)
 - Client over LAN to/from Server
 - Remote over dial-up or Internet to/from Server
 - Server/Server backbone
- Reducing inbound Internet traffic (active at gateway)
 - Reduce growth of Exchange Server(s)
 - Reduce bandwidth demands from Gateway to Server(s)

The value of AUTO-Zipping provides 100% assurance that these zipping benefits occur.

Key savings

Zipping an attachment will reduce its size by up to 80%. The net effect on a mailbox by zipping attachments is to reduce its overall size by between 40-55%.

The three main benefits from auto-zipping attachments are to **Storage**, **Bandwidth** and **Productivity**.

Beware: tests show that not all email auto-zip products decrease the bandwidth required to transmit files to/from a server. Some upload the attachment when inserted and then compress the now uploaded attachment and then further upload the newly compressed attachment.

Storage

Zipping existing attachments in mailboxes and public older size (i.e. the Information Store) will reduce it by 40-55%. Continuing to zip attachments as they are sent, will ensure the IS size remains at its minimum.

While storage may be relatively cheap, the cost of Managed Storage, being hardware, administration and operations, back-up and media is not. Mailbox and consequently Information Store growth is usually quoted at rates from 35% to 48% per annum.

Achieving a net compression of 40% will give a 40% reduction in bandwidth consumed by email traffic, therefore reducing the frequency of expensive network upgrades, improving current throughput and reducing mail delays. The savings can be achieved on inter-server and server gateway traffic.

However, it is possible to achieve increases in performance on both LAN and WAN enabling benefits at client-server as well. For remote users where bandwidth may be low-speed and expensive the benefits will be even more pronounced. Remote users include traveling users and home workers who will see huge benefits in transmission time.

Productivity

Leading on from the increase or decrease in performance to the user, are productivity gains or losses. Reducing bandwidth requirements on constrained systems is of benefit to the IT team, but beware the user costs in achieving this.



One reason people do not use manual-zip is the time taken to zip a file. Loaded cost on a \$60,000 base salary (plus Medicare, retirement savings, company related taxes and overheads) will cost a company close to a \$1 per minute. If it takes a minute to zip a file, twice per day, the cost of lost productivity will amount to \$480 per year per employee.

Manual zipping is not as cheap as you may think. If your auto-zip is faster than manual zipping, but actually takes more bandwidth, then is there a saving or loss. With optimized auto-compression, bandwidth loadings should be reduced and productivity increased.

Auto-compression brings the greatest productivity benefits to the remote user, but they still apply to the LAN based user. For the heavy IT users, these benefits can still amount to 5 minutes per day. The potential productivity gains are ones that a company should simply not ignore.

Zippping the Enterprise: external factors to consider for an optimal solution

Beyond the email system

Email systems do not work in isolation and to be truly successful, Enterprise level auto-zipping must co-exist with other applications, and the zipping and unzipping process must not change the user's mode of operation in any way.

Forwarding, drag and drop, etc

There is no single way that a user interacts with an email system. Some users always use drag and drop to attach a file, while other never use it. Some users open and edit attachments directly from the email message before sending them on; others would always save them first. In all of these cases compression must act invisibly yet reliably. In the same way that all points of access to the email system have to be covered, so do all ways in which users can operate.

Central configuration

Organizations need the efficiency of client-installed operations, but the control of configuring the application centrally. A small change to the client configuration for many users can be very costly if all users have to be visited individually. Lack of central configuration can seriously adversely affect the Total Cost of Ownership of the entire compression solution.

Messaging aware

An Enterprise zipping system should be more than a desktop compression tool 'bolted on' to the messaging system. It should work with the mail system, for example understanding that traffic to an Exchange based fax solution should not be compressed, as document conversion will fail. If the messaging system employs encryption or virus scanning, then the zipping application should be able to interoperate with these applications.

Deployment

Clearly, any Enterprise zipping application that is installed at the client side will need to be deployed to each desktop, which can be a very costly exercise. To minimize costs, the client should integrate with your current deployment tools and also provide small (MSI) installer packages that install silently or provide scripts for custom installations using applications such as Microsoft System Management Server.



All Access points covered

An enterprise compression tool should provide “anytime, anywhere” automated compression and decompression to optimize the benefits to the user and the organization.

Summary

Email attachment zipping is a standard and widely employed technology which, when used appropriately, can reduce costs and increase user productivity.

In the wider context of today’s email communications, the zipping itself must be deployed across all points of email access to the Enterprise. The scope of the Enterprise runs across the LAN, WAN, via SMTP Gateway and to remote dial-up or Internet users.

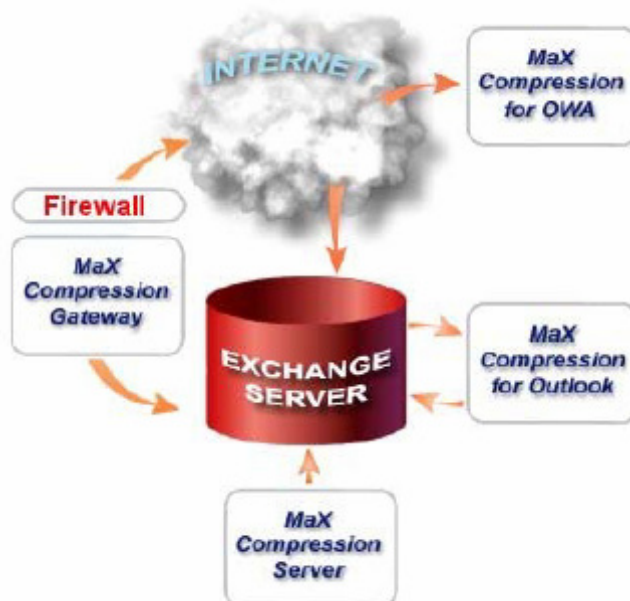
Combining these facts, for optimal benefits of attachment zipping it is important that it is 100% assured when appropriate and automating the process removed reliance on the user makes this unavoidable. However, any organization should check that the software they are using provides a ‘win-win’ situation for both IT and user productivity.

C2C recommends MaX Compression

MaX Compression zipping technology further enhances Microsoft’s compression techniques when Outlook 2003/7 and Exchange 2003/7 are transmitting the data. MaX Compression Enterprise from C2C provides “anytime, anywhere” automated compression and decompression to optimize the benefits to the user and the organization. MaX Compression offers fast auto-zip and un-zip capabilities, and provides a widely employed Enterprise-wide compression solution.

MaX Compression is part of C2C’s Mailbox Size Management Strategy. First delivered in 1997 its pedigree has made it the de-facto standard for Exchange Email auto-zipping. At the outset, MaX Compression was designed for large corporate users, where issues of management, security and deployment were at the forefront of their concerns for new applications. Having achieved success with this pattern, it was relatively easy to apply the same solution to smaller organizations, unlike other zip products, which could not be upsized to meet these stringent demands.

MaX Compression Enterprise is a component of C2C’s Mailbox Size Management solution. For organizations that need to minimize expenditures on storage and reduce disaster recovery windows, implementing an effective Mailbox Size Management solution will reduce server loads, shorten restore times, increase ROI on storage expenditures, and slow the consumption of new storage as it is made available.



For more information, visit <http://www.c2c.com/site/products/activemailtools/max/default.asp>.

Free 30 day evaluation at <http://www.c2c.com/site/downloads/download.asp>.



About C2C

C2C offers email archiving and management solutions, which reduce risk, optimizes performance and minimizes compliance issues for over three million users at more than 2,000 organizations world-wide.

The Company, a Microsoft Gold Certified Partner, supports organizations in the government, manufacturing, finance, education and healthcare industries, including Fortune 1000 companies. Established in 1992, C2C is a privately held company with US offices in Springfield and Westborough, Mass; and Reading, Berkshire in the UK.

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