

THE VIEW

The Technical Journal for Lotus Notes and Domino

2006 Technical Solutions Supplement
Exclusive Reprint

**Tidy up your garage
instead of buying a
new one**

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Considering how common and persistent the challenge of managing and storing data and information is, I'm often surprised by the number of companies that make huge financial investments in expanding their IT infrastructure with new Domino servers, storage devices, and bandwidth extensions instead of doing everything they can with their current Notes environment to make it more efficient and more productive.

Imagine you've just bought a new car and you're driving it home to park in your garage. Your garage is large enough for two or even three cars, but, unfortunately, you've allowed

both the garage and driveway to become so cluttered with other items that you have no room for your new car. So what do you do? You have three options:

- Acquire additional land and build a new garage and driveway
- Leave your new car outside and risk it getting damaged or stolen
- Tidy up your garage and the driveway so you create enough, or even more than enough, room to fit your new car (see **Figure 1**)

Obviously, the most cost-effective, safe, and efficient approach is the last choice. Now look at this example

from a Notes perspective, thinking about your Domino server(s) as your garage, your corporate wide area network (WAN) as the driveway to your garage, and e-mails and Notes documents as your new car. Would you buy and install new Domino servers or new storage devices if the current ones still had plenty of available free space? Or would you buy network bandwidth extensions if your current network was only at 60% of its nominal throughput? Certainly not!

Using solutions from MK Net.Work, you can make 25% to 50% of your resources available, even if your Notes storage devices are full and your network is overloaded.

Stop wasting Notes storage, network bandwidth, and your IT budget

With simple and reliable solutions like MK Net.Work's ZipMail, ZipMap, MK Email Size Limiter, MK Remove Duplicate Attachments, and MK Cache, which compress, image-optimize, regulate, detect, and remove duplicate attached file features, you can not only put an end to the daily wasting of Notes-related storage and network bandwidth, but also free up 25% to



Figure 1 Clean up your current infrastructure before investing in new space

50% of your current Notes storage. Best of all, you can do all this while improving the overall performance of your Notes organization!

MK Net.Work products are transparent to Notes users, so they do not require end-user training. Consequently, expected volume savings are immediate.

In this article, we'll look at the file attachment compression capabilities of our flagship solution, ZipMail, before taking a closer look at our new products for further reducing resource consumption within your Notes clients and Domino server.

Comparing ZipMail and LZ1 native file compression

Tidying up your "garage" begins with ZipMail's compression capabilities. Some Notes customers may reason that the LZ1 (Lempel-Ziv) algorithm, native to Notes 6,¹ provides the compression capabilities necessary to maximize space. Only Notes 6 users, however, can take advantage of this capability. ZipMail works with *all* Notes client versions from 4.5 to 7, as well as a version of Domino Web Access. What's more, on average, ZipMail effectively *doubles* the volume savings you can obtain with Notes 6 LZ1, trumping LZ1's ability to:

- **Compress attached files in existing databases**
ZipMail compresses attached files in existing databases, whereas LZ1

¹ Throughout this article, references to Notes 6 mean Notes 6.x and 7.x versions.

A closer look at the benefits of MK Net.Work solutions

With MK Net.Work solutions, you can uncover Notes storage and network bandwidth resources you didn't know you had and eliminate the unnecessary consumption of these resources by using them more efficiently.

- ✓ **Free up 25% to 50% of your current Domino server's used disk space**
 - Compress all attached files into Zip files, and optimize all of the copied and pasted images stored within your existing NSF databases, with *ZipMail for Lotus Notes Databases*
 - Remove duplicate attached files and images in replies with conversation threads using *MK Remove Duplicate Attachments*
- ✓ **Reduce your Notes network traffic and new disk space needs by 25% to 50%**
 - Compress on the fly (transparently and automatically) the files that your users attach to their Notes e-mails and document files with *ZipMail for Lotus Notes*, *ZipMail for Domino Web Access* (client software), and *ZipMail Real Time for Domino* (server software)
 - Optimize on the fly (transparently and automatically) images copied and pasted into your existing Notes e-mails and documents using *ZipMap for Lotus Notes* (client software) and *ZipMail Real Time for Domino* (server software)
 - Prevent the sending of e-mails over a given size, as well as e-mails for which $\langle \text{size} \rangle \times \langle \text{number of recipients} \rangle$ is over a given limit, using *MK Email Size Limiter*
 - Use local cache to store attached files from NSF databases that are located on Domino servers and not replicated locally with *MK Cache for Lotus Notes*

is limited to new attached files and cannot handle the existing ones.

- **Promote widespread use and decrease the load on the Domino servers**
ZipMail is independent of the database design, while LZ1 is for Notes 6 design only. LZ1 is a Notes database property that is unchecked by default (in other words, when you create a new

database, the LZ1 compression property will be switched off). However, some users will switch on the property after creating the database. In a Notes 6 environment, however, maintaining both types of databases — those with the LZ1 property checked and those without — not only results in the LZ1 compression being only partially applied, but it also

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has consequences for the Domino server load: When Notes 6 users who have a mail database with the LZ1 property unchecked send and receive attached files to and from other users who have a mail database with the LZ1 property checked, the Domino servers must convert the attached files to or from the LZ1 format (and similarly the servers must convert the files to and from the Notes 4 and 5 Huffman² format).

To avoid increasing your Domino server load, IBM recommends that you don't use LZ1 in such mixed environments. To offset the burden on the Domino servers, ZipMail compresses files into Zip files without using either Notes compression algorithm (since Notes could not reduce the Zip file size again). As a result, ZipMail does not consume any resources on Domino servers, and it helps you

avoid the common Huffman-to-LZ1 and LZ1-to-non-LZ1 conversion problems that Domino 6 servers must process to guarantee that Notes-attached files are portable across all of corporate Notes clients, regardless of version or LZ1 property settings.

- **Reduce the size of images**
LZ1 ignores copied and pasted images, while ZipMap, ZipMail Real Time and ZipMail /DB, can reduce their size up to 90% (this applies to new and existing images).
- **Speed outbound e-mail delivery**
LZ1-compressed files are decompressed when sent to the SMTP gateway. This consumes server resources and network bandwidth, adding delays to SMTP e-mail delivery by transferring multi-megabytes of uncompressed attached files. Attached files compressed by ZipMail are industry-standard Zip files. They are not compressed by Notes and therefore not reprocessed at any time by Notes SMTP gateways or Domino servers. All of your recipients receive the same Zip files wherever they are located and whatever their e-mail client software is.

ZipMail volume savings increase when you use new MK Net.Work products, such as MK Remove Duplicate Attachments, MK Email Size Limiter, and MK Cache. With ZipMail products, not only does Notes deal with smaller attached files, but these files do not generate any conversion transactions in the router and server tasks, regardless of the end user's Notes client version, e-mail software, NSF design, or LZ1 database property status.

ZipMail's network connection edge

As noted on IBM's Web site, network compression increases CPU time for server and router tasks by as much as 20% and Notes server memory demand by approximately 15%. LZ1 network compression is only for Notes 6 to Notes 6 nodes, and it optimizes bandwidth, not storage. Moreover, Notes 6 network compression does not further compress files that are already compressed using ZipMail (or using Notes 6 LZ1 file compression).

² Huffman is the algorithm (named for its inventor, David Huffman) used in Notes 4 and 5 to compress attachments.

MK Net.Work software offerings are both server- and client-based

- On-the-fly attached file compression and image optimization are available for Notes and Domino Web Access *clients* through **ZipMail** and **ZipMap**, and for Domino *servers* through **ZipMail Real Time**.
- Existing attached file compression and image optimization are available for Notes *clients* through **ZipMail/DB Client** and for the Domino *servers* via **ZipMail/DB Server**.
- Removing duplicate attached files and images is available for Notes *clients* with **MK Remove Duplicate Attachments Client** and for Domino *servers* through **MK Remove Duplicate Attachments Server**.
- **MK Email Size Limiter** and **MK Cache** are *client*-based only because their features must be applied on the client side, though they can be administered centrally, like ZipMail and ZipMap.

Because 85% to 90% of network traffic is derived from attached files, ZipMail solves volume problems at the source, before the high volume of attachments becomes a large resource drain.

With ZipMail, files are always compressed before they enter your Domino organization, and expanded attachments are usually stored on the client hard drive. You simultaneously reduce bandwidth and storage while completely eliminating the need for Notes LZ1 network compression.

New solutions from MK Net.Work further decrease e-mail capacity

In order to enable our customers to further increase Notes volume savings and reduce costs, MK Net.Work is offering new products in addition to our initial product offering based on ZipMail. These solutions are an efficient way to reduce the huge resource burden of e-mail attachments and oversized e-mails so you can improve the overall performance and response times of your Lotus Notes organizations. The products are transparent to users and do not require end-user training, so volume savings and return on investment are immediate. Our new solution offerings include:

- **MK Cache**, which eliminates the need for network bandwidth when you repeatedly access an attached file (for viewing, opening, editing, or detaching) from a Notes message or document stored in server databases that are not locally replicated.
- **MK Email Size Limiter**, which enables you to limit the size of e-mails as well as the maximum amount of Notes storage an e-mail can consume when sent to numerous recipients. Most Notes administrators have experienced users sending multimegabyte e-mails to hundreds if not thousands of recipients and, in doing so, overloading or crashing one or more of the Domino servers. MK Email Size Limiter prevents this by performing e-mail size checking locally on the workstation (so oversized e-mails don't need to be sent to the server for size control) without any Notes template modification. MK Email Size Limiter also regulates <e-mail size> x <number of recipients>, and it can be managed centrally, with parameter and code updates that are 100% automatic.
- **MK Remove Duplicate Attachments**, which removes duplicate attached files and copied and pasted images in conversation threads, commonly reducing e-mail database size by 20%.
- **MK Updater**, which is a generic tool enabling Notes administrators to centrally manage the parameter and code updates and to consolidate the statistics for each of our client products, including ZipMail, ZipMap, MK Email Size Limiter, and MK Cache. The tool is based on a central NSF database for each product, which allows you to define custom settings for each user, if needed. You can define various sets of parameters to apply to different user lists, as well as a default set that applies to every user not attached to a custom set. Once MK Updater is installed on your client computers (it is a single 60KB DLL file), automatically installing or updating one of our client product parameters or codes (even MK Updater itself) is only a matter of copying or updating a database on your Domino server(s). MK Updater is not always necessary but is intended for customers who do not have corporate deployment tools or who need a tool to manage remote INI parameter files.

The volume reduction benefits of these products come with significant improvement to the Notes overall performance and response time.

Conclusion

With more than three million users worldwide, ZipMail is a leading solution for Notes volume optimization. Our new MK Cache, MK Email Size Limiter, MK Remove Duplicate Attachments, and MK Updater products

continue to deliver more value and demonstrate how MK Net.Work is constantly working to improve our offerings. Each of these new solutions includes characteristics that our customers continually embrace:

- ✓ Fast and easy-to-prove ROI
- ✓ Full transparency and automation
- ✓ No need for user training, resulting in ultra-low administration cost
- ✓ Low memory and CPU footprint (single DLLs under 100KB)
- ✓ Automated setup and fast deployment
- ✓ Fanatical, world-class tech support

MK Net.Work solutions are designed for you to extract the maximum value from your existing Notes resources. Even if your Notes storage devices and network are overloaded, MK Net.Work can help you minimize storage and bandwidth consumption, thereby increasing your Domino and Lotus Notes capacity and response times. For more information, please visit <http://www.mknetwork.com>.

Most of the ideas implemented in our new products come from our customers. I would like to take this opportunity to sincerely thank them for their benevolent and most valuable help.

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