Taming the Growth of Email – An ROI Analysis

White Paper by The Radicati Group, Inc.

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1.0 Introduction

The importance of email in today's corporate world is undeniable. Approximately 541 million workers worldwide rely on email communications to conduct business. Additionally, email use is not moderate. Based on our research, corporate users send and receive an average of 133 messages per day and this number is expected to reach 160 messages by 2009.

With the average size of a single message currently around 0.11MB, the daily email storage requirement for a single user is 14.7MB. This translates into 294MB per user, per month for corporations that maintain a standard 30-day email retention period.[1]

Email storage requirements are growing out of control because of simultaneous expansion on several fronts, including:

- Growth in the number of e-mail *users,*
- Growth in the *size* of email messages,
- Growth in the volume of *messages* per user,
- Regulatory compliance pressures are forcing organizations to retain email for long periods of time.
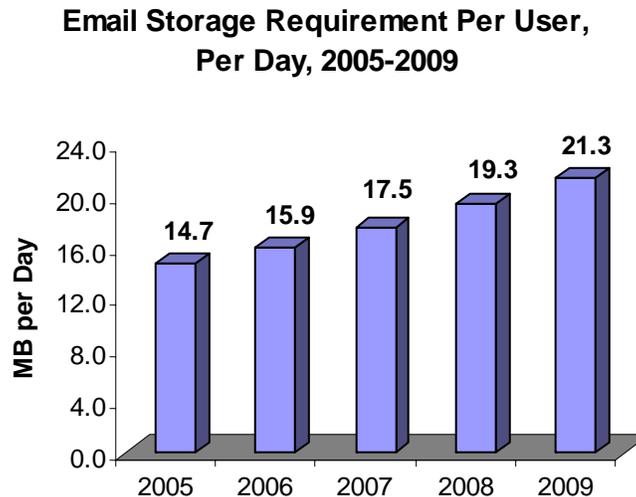
**Email Storage Requirement Per User,
Per Day, 2005-2009**

Figure 1: Email Storage Requirement Per User, Per Day (MB), 2005-2009

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[1] Assuming 20 business days per month.

These figures paint a dismal picture for IT departments' storage budgets, faced with a daunting task in terms of adding new hardware and software, maintenance, and administration, to accommodate the spiraling volume of email. On top of that, many organizations are obligated to satisfy specific email retention and retrieval regulations, which cannot be effectively met with out-of-the-box email server/client products (i.e. PST files).

Ultimately, this makes *email expensive*. Based on Messaging Total Cost of Ownership (TCO) studies performed by The Radicati Group, it was found that enterprise email costs an average of $435.85 per user, per year.[2] Much of this cost can be attributed to the acquisition, maintenance, administration, and storage costs of adding new servers and primary storage solutions to support email growth. Today, this often requires numerous hardware and software products from different vendors to be integrated, maintained and supported.

Corporations face a tough challenge today: implementing a strategy that tames the growth of email and satisfies email retention regulations, without hindering the critical productivity gains which email provides to users.

2.0 Ad-Hoc Solutions

In an attempt to control the growth of email and its associated costs, corporations are looking for solutions. Many of these options, however, do not focus on the source of the problem and carry their own complications into the messaging environment. Some of the most common email growth management "solutions" being deployed today include:

Adding more Email Servers – Adding new email servers to the messaging environment allows for a larger number of users, more traffic and more storage. IT managers are typically familiar with the process of adding servers, so this solution seems like a logical next step when email grows out of control.

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[2] "Messaging Total Cost of Ownership," The Radicati Group, Inc., March. 2003

- <u>Drawbacks</u>: Unfortunately, this is not a very cost effective solution. New email servers are very expensive when one considers the added acquisition, administration, and maintenance costs associated with more servers. Additionally, this solution only offers a relatively minimal scalability increase, so the cycle of deploying more servers down the road is inevitable.

Use PST Archival Files – Many organizations believe that the native PST files offered with MS Outlook can be used to solve storage and regulatory problems. As messages age, users simply "archive" them to the "archive PST" file on their PC.

- <u>Drawbacks</u>: The most obvious drawback to this approach is that there is no centralized location for all archived messages to be managed, searched and retrieved, which is unacceptable for regulatory compliance. Furthermore, large PST files consume valuable PC storage resources. As users "smuggle" PST files back onto file servers, many large files are duplicated.

Adding more Storage – Another popular measure taken by enterprises to manage email storage growth is an increase in the size of the SAN/NAS.

- <u>Drawbacks</u>: This solution can be effective, but like the addition of more email servers, this is not a permanent fix.

Implementing Mailbox Policies – Another "quick-fix" solution is the implementation of strict mailbox rules. While nearly all companies have established some foundation of reasonable mailbox policies to govern the use of email, others view mailbox rules and small quotas as ways to control mailbox sizes.

- <u>Drawbacks</u>: While this method can be effective in reducing the amount of storage, it is disruptive and constrictive to the productivity of end-users if the mailbox policies are too strict. Users will often create a local email archive file to reduce email within their mailbox, which presents another problem: the corporation has limited access to this data and it is not backed up. Even where users make backup copies, these are often moved to network home directories with multiple grandfather copies. The result of such policies is a decrease in message storage, but an increase in file server storage with no redundancy or disaster recovery of the individual archives.

Offline Backup – Another possible solution, often used in tandem with strict mailbox policies is the backup of email data every "x" days onto offline storage media, such as tape.

- Drawbacks: With this method, users have very limited access to important business data, and the backup process requires valuable administration time. Since users often need immediate access to historic information, "slow access" is no better than "no access" in many cases. Slow message retrieval is unacceptable for many regulatory bodies as well.

Compression Tools – These tools attempt to reduce the total storage requirement by compressing email in the message store.

- Drawbacks: Compression tools offer only temporary and symptomatic relief to the overall email storage problem. In many cases, these tools require user intervention and the need for all users to have the same tools, and stay updated.

Attachment Management – These include products designed to strip and/or compress email attachments.

- Drawbacks: While this approach can be effective in reducing the message store growth, current implementations are complex, expensive, and often increase backend storage management costs, especially when a backend storage server or tape subsystem is utilized. Additionally, these solutions are often limited in search and retrieval performance, and tend to be extremely slow.

3.0 HP StorageWorks Reference Information Manager for Messaging addresses mailbox challenges

HP RIM for Messaging is specifically designed as an application connector to the HP Reference Information Storage System. (RISS). The RISS platform is a feature-rich active archiving solution that transforms unstructured data into exploitable information. It provides single instancing, full content indexing, date and time stamping, mirroring of data and is architected on the HP StorageWorks Grid for rapid retrieval of records.

Use of HP RIM for Messaging on the RISS platform provides integrated functionality with Microsoft Outlook and Lotus Notes and supports full compliance licensing whereby every email communication is captured in accordance with the strictest legal regulations or "selective" licensing which automatically and centrally manages users' mailboxes and obviates the use of quotas and PST's, improving the productivity and manageability of the environment.

The result is a highly-scalable and a remarkably more manageable email system, with no storage concerns and a lower Total Cost of Ownership (TCO).

3.1 How it Works

HP RIM for Messaging on the RISS platform offers a unique, *permanent* solution to the email storage problem. Here's how it works:
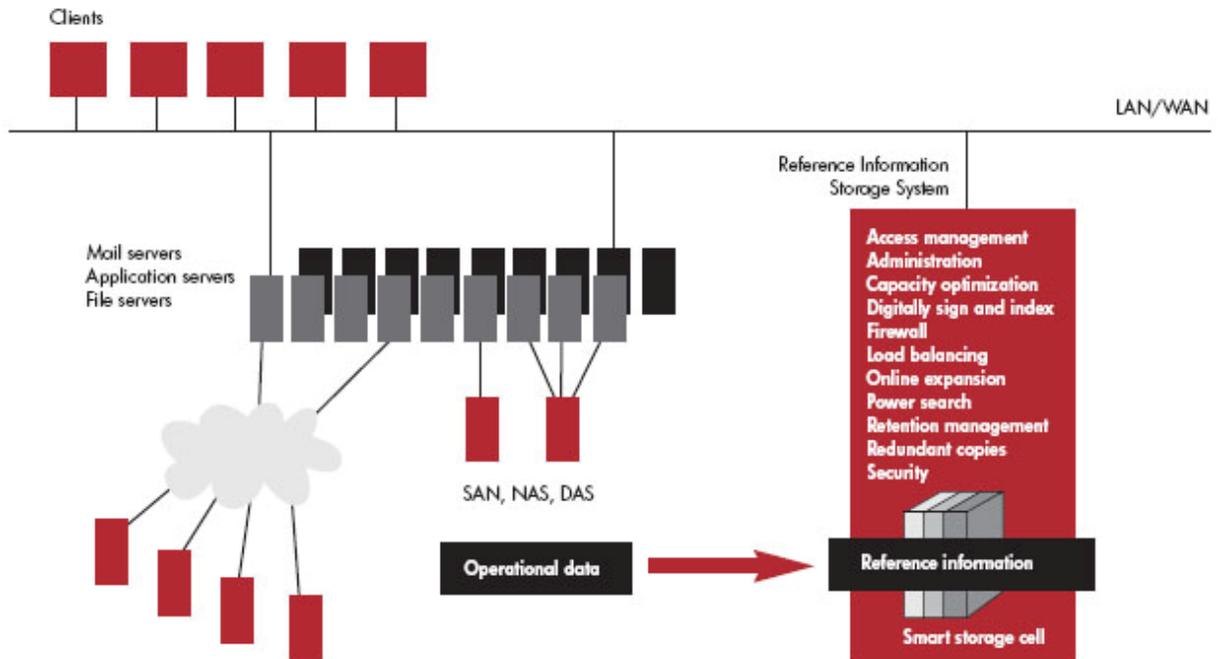

Figure 2: Email Architecture with HP StorageWorks RIM for Messaging

1. The HP StorageWorks RIM for Messaging on the RISS platform combines storage and processing elements together with all the software functionality that provides content indexing, search tools, de-duplication, time stamping all optimized and integrated tightly into Microsoft Exchange and Lotus Domino. The solution is installed into the customer's messaging environment by simply connecting to the messaging network. As opposed to other solutions which take weeks to install, due to complicated integration tasks, HP's solution is fast and simple to implement.

2. This new solution is transparent to end users and does not change their email experience. Once the new system is installed, archived email messages still in a user's mailbox are represented with a special icon or "stub." The system administrator can define the parameters and size of users' mailboxes so that email messages are automatically archived yet the users work with archived mail as they would any email message. For instance, you can forward, reply to or delete the archived email message. Deleting the archived email message deletes it from the mailbox but not from the RISS archive. As users reach their Exchange or Notes mailbox quota, messages can be simply deleted by using centrally set standard quota rules since all email has previously been archived in the user's system. There is no longer any need to use the rudimentary Archive PST files associated with MS Outlook. To display a message all that is required is to double click it to open. In the case of a message having been deleted from the mailbox so that no "stub" remains, an accurate and fast search web-based facility is available to the user. The user can enter simple words, words with wildcards, or a more sophisticated query involving Boolean word sequences.

3. HP RIM for Messaging supports both retention management, focused on mitigating risk and assisting in legal compliance and also, data management which focuses on lower costs and improved service levels.

   a. "Compliance" mode archiving ensures that every email communication whether internal or external is captured upon arrival at the server. Every user or a defined subset of users may be subject to this control which is especially useful for satisfying regulatory needs. As regulations continue to evolve, more and more organizations are facing requirements that demand better management of their messaging systems and longer retention periods. HP

RIM for Messaging is ideal for corporations that face these challenges. It allows for organizations to capture and retain all email correspondence in "non-tamperable" form for as long as policy dictates, and the solution provides advanced search and retrieval of those messages, including attachments, so that messages can be presented to auditors in a timely manner.

b. The other approach is known as the "Selective" approach which eases the management burden for email users and IT administrators alike. Users can become frustrated by the time they have to spend managing their inbox size limit and searching for old messages. IT departments have to tackles the issue of storage space, user management, system performance, data backups and maintaining central policies. HP RIM for messaging eases these concerns by automatically managing users' mailboxes according to predetermined policies. Maintaining personal archive folders are no longer necessary as users are able transparently to access their messages from a central archive.

This central archive or HP RISS solution offers an administrative control point, normalized data for long term application accessibility, elimination of duplication, highly available mirrored data, improved application uptime and reduced backup demands.

HP thus offers organizations maximum flexibility in how to implement their archiving solution while still providing all users with the benefits of fast search and retrieval based on key word recognition without leaving the messaging application.

- Figure 3, next page, shows a screenshot of MS Outlook with HP RISS integration. The diagram will show archived messages represented as stubs in users' mailbox.
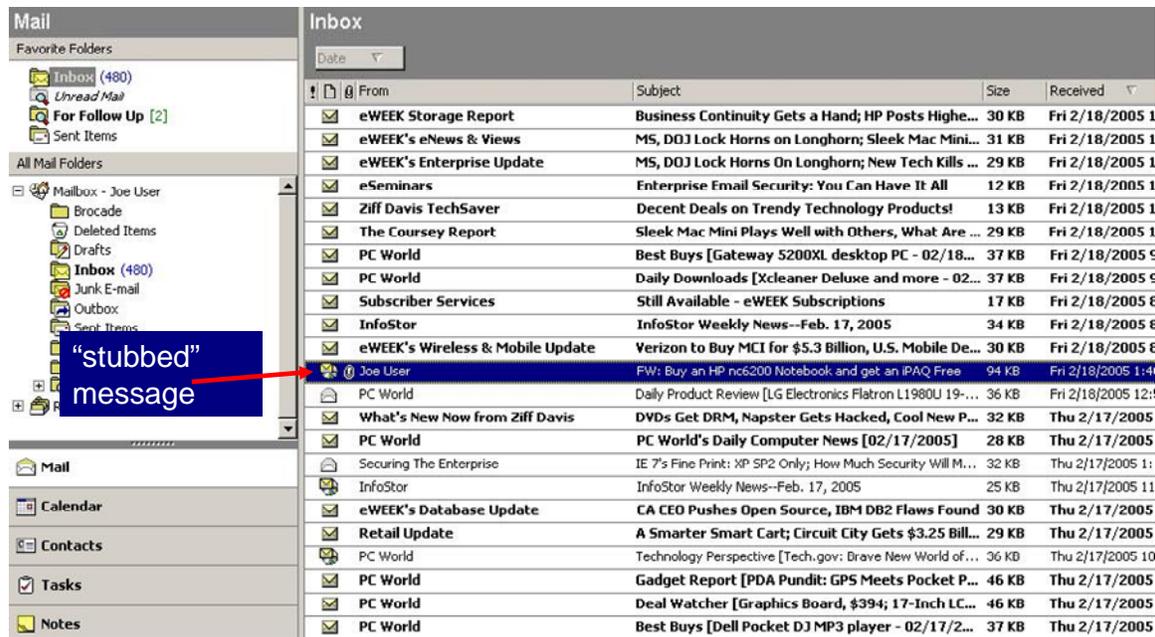
Figure 3: RISS Screenshot – Archived Messages are "Stubbed" in Mailbox

4. Once emails and documents are stored in the HP Reference Information Storage Solution, they can be queried and retrieved almost instantaneously with advanced searches that pinpoint the exact email or document in a matter of seconds. Merging of the search and folder paradigms improves user productivity and empowers users with information at their fingertips.

   a. In addition, HP Reference Information Storage Solution's search feature is highly advanced in that users can search *content* in addition to header information – meaning *all information* can be queried, including the content of email attachments and documents. This is essential because regulations require for all email data to be retained, including attachments. Most importantly, search results are returned instantaneously, even if search terms are found with the body of an attachment.

5. As more storage is needed, the HP solution scales extremely easily. The product is based on an innovative Grid architecture, which allows customers to incrementally add "Storage Smart Cells." Each cell has self-contained storage capacity, processing power and content indexing capability and is fully mirrored for redundancy. These "Storage Smart Cells" combine to form a Grid which scales exponentially without any performance degradation.

3.2 HP RIM for Messaging Benefits

The HP solution addresses the source of the email growth problem in a simple, cost effective manner, reducing administration and storage costs without affecting end-user productivity.

HP RIM for Messaging provides the following key benefits to its customers:

- **Lower TCO** – Depending on the individual company, HP can reduce a messaging system's total cost of ownership by 56% in the first year alone and as much as 66% over a three-year period. It does this in a number of ways:

    o *Server reduction* – Since the majority of email storage is offloaded onto the HP solution; each individual email server is left with a much lighter load. As a result, more users can comfortably fit on each server. Fewer servers mean significantly lower acquisition, maintenance, and administrations costs.

    o *Installation and management* are significantly less complex because of the product's "all-in-one" design. The solution is fully integrated, so no software development or other integration is necessary.

    o *Capacity Upgrades* are incremental, as opposed to other storage solutions that require customers to purchase huge, expensive lots of storage at a time.

    o *Off-the-Shelf Hardware*—The solution uses inexpensive, industry standard hardware.

- **Improved Productivity** – Another significant benefit is the increase in productivity across the organization which the HP RIM for Messaging on the RISS platform provides.

- o HP RIM for Messaging solution reduces the time required for users to search and access critical information. This has significant impact on reducing the cost of "legal discovery" when records are demanded by internal or external auditors for corporate governance or compliance reasons. Searching for older emails from backup tapes requires intense manual intervention as older tapes are mounted, restored and an attempt is made to locate specific information. This time consuming activity is a lengthy and costly procedure.

- o In addition, all archived email data is normalized into a standard TNEF format. This enables the data to be accessible beyond the lifetime of the application version. This facilitates migrations and upgrades of email applications. An additional benefit, is the ability to import legacy data back into the system giving users immediate access to a much wider pool of valuable information.

- o HP RIM for Messaging's search capabilities are highly advanced, allowing users to quickly query and retrieve documents based on *content*, as opposed to searching merely on header information.

- o HP RIM for Messaging provides employees with "*infinite mailboxes*," meaning users have continuous and immediate access to all messages and important data, no matter the age of the document or message. This empowerment results in a significant increase in user productivity.

- **Higher Scalability** – Built on an innovative Grid Architecture, the HP RIM for Messaging on the RISS platform has the ability to scale quickly and easily, at the customer's pace. Instead of implementing constrictive mailbox rules, companies can give their email users more space, with the ability to search archived messages quickly and easily.

- **High Availability** – Data stored by the HP solution is mirrored, hot swappable, and can be replicated to a remote location. In addition, it is self-diagnosing and self-healing, further reducing the need for heavy administration.

▪ **High Performance** – The parallel processing provides real-time indexing and storage to handle over 30 emails per second, and can be scaled to 200 emails per second. Also, load-balancing is built in. Powerful content search capabilities can allow thousands of users simultaneously hitting "enter" at the same time to retrieve a search in less than 3 seconds.

▪ **Regulatory Fulfillment** – HP RIM For Messaging solution is exceptional in that it was designed for both storage and regulatory problems in the mail and messaging environment and can address both of these issues extremely well. Regulations such as Sarbanes-Oxley, BASEL II, HIPAA, SEC 17a-4 provide a growing number of companies with challenging messaging requirements part of which can be addressed by technology. Very importantly, the "storage smart cell" architecture and retrieval software allows for full text searches of a wide variety of document types (email, attachments, IM, MS Office files, etc.) in cases of legal discovery.

4.0 Understanding Enterprise Storage Costs

This section provides a Total Cost of Ownership model that lets organizations understand what email storage is costing them today in terms of capital expenditures, operational expenses and on-going maintenance.

The number and size of email messages sent and received per day continues to grow at a fast pace, putting pressure on organizations which need to adhere to email retention guidelines. Table 1 shows our projected growth of corporate email traffic from 2005 to 2009, and the level of storage it warrants.

The Average Corporate Email User		
	2005	2009
Messages Sent/Received Per Day	**133**	**160**
Messages Received Per Day	99	109
Messages Sent Per Day	34	51
Messages w/Attachments	22	28
Messages w/o Attachments	111	132
Avg. Attachment Size	469KB	545KB
Avg. Message Size (w/o attach.)	38KB	46KB
Avg. Total Storage Per User/Day	**14.7MB**	**21.3MB**

Table 1: Corporate E-mail Traffic, 2005 & 2009

The average corporate e-mail user sends/receives nearly 15MB of e-mail per day. For a company with 10,000 e-mail users, that adds up to about 147 Gigabytes (GB) per day, 735GB per week, or approximately 2.9 Terabytes (TB) per month.

This proliferation of email impacts not only the cost of storage but all aspects of day-to-day operations including administration costs, downtime costs and administrator training.

4.1 A TCO Model for Email Storage

In order to better understand the impact of email growth in enterprises we have developed a Total Cost of Ownership model which looks at all the major components of cost, including:[3]

- Acquisition costs
- Maintenance costs
- Administration costs
- Downtime costs

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[3] Messaging Total Cost of Ownership: in Enterprise and Service Provider Environments, 2003, The Radicati Group, Inc.

- Training costs, and
- Storage costs.

The model is based on on-going research conducted by The Radicati Group with large enterprise organizations deploying Microsoft Exchange, Lotus Notes, as well as a variety of other messaging platforms.

Cost Modeling Goals

The model's key goal is to show how organizations can effectively reduce the number of email servers they deploy if they leverage the HP RISS email archiving solution. The proliferation in the number of servers within organizations is a direct result of the limitation of the amount of storage per server. By moving the storage of email to the HP solution, companies can reduce the amount of storage required on their email servers, resulting in a need for fewer servers, therefore reducing the overall TCO, as fewer servers mean lower maintenance costs, lower administration, less downtime, and lower training costs.

Key Assumptions

The model makes the following assumptions about costs:

- *Period of depreciation* – we assume a three-year straight line depreciation for all acquisition costs.

- *User productivity* – while some TCO and return on investment models may include user productivity losses or gains due the ability to quickly retrieve stored emails, we chose not to include such "soft costs" as part of this model, as they are highly subjective and typically depend on a multitude of factors which may be

environment or situation-specific rather than quantifiable in terms of costs or savings.

- *Salaries* – salaries for administrators and employees vary greatly from company to company, and country to country. We make the following assumptions about salaries throughout this model:

  - $60/hour for full-time IT administrators fully loaded (i.e. includes overhead, benefits, taxes, etc.).

  - $35/user for employees fully loaded (i.e. includes overhead, benefits, taxes, etc.).

4.2 Cost Savings in a Microsoft Exchange Environment

Table 2 shows how a company of 10,000 employees that is deploying MS Exchange can reduce its 3-year messaging TCO by deploying the HP RISS solution.

Storage Costs

Assuming an average of 133 email messages per day, with an average size of 0.11MB per message, the average user would need 14.7MB of storage per day. Assuming an industry standard retention period of 30 days, this means an average user requires 294MB of storage at any given time. Using an average cost for storage in Exchange environments of $0.05/MB, yields a total cost of $147,000 in year 1 for a 10,000 user organization.
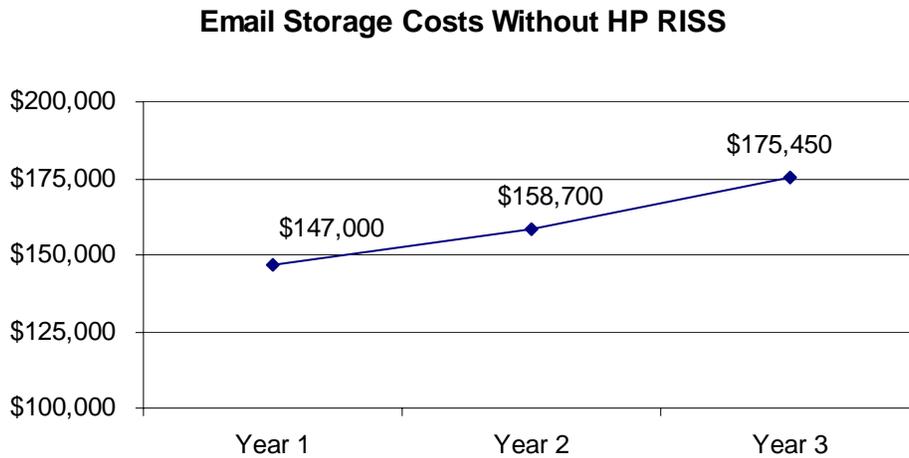
Email Storage Costs Without HP RISS

Figure 4: Email Storage Costs *Without* HP RISS Deployed

Based on industry statistics, we expect the number of email messages to growing at an average of about 4.5% for the next couple of years, and the size of email messages to grow at an average of about 5% a year. The result of all this is that the storage requirement will grow to 318MB per user per year in year 2, and to a further 350MB per user per year in year 3.

Number of Servers

The number of servers deployed by the organization is directly linked to the amount of storage each server can support. Based on our research, the average Exchange server can support 95GB; therefore, a 10,000 user organization with a storage requirement of 2,940 GB would need about 31 servers.

As the volume and size of email grows in years 2 and 3, the same organization will need to install an additional two servers (year 2) and four more servers (year 3) just to keep up with growing storage requirements.

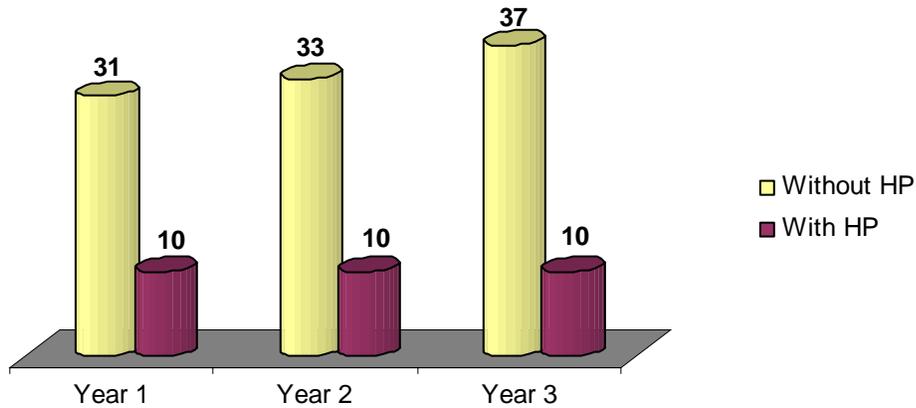**# of Email Servers Required, With and Without HP RISS**

Figure 5: # of Email Servers Required With and Without HP RISS Deployed

We assume an acquisition cost of $32,000 per server, including: hardware, software, and operating system. The yearly maintenance cost per server runs about 20% of the purchase price, thus yielding $6,400 per server per year for maintenance costs.

Administration Costs

Based on research conducted by The Radicati Group, the average organization running Microsoft Exchange spends $20,442 a year, per server, for server administration.

Migration/Upgrade Costs

Research by The Radicati Group shows that the annual cost of migration and/or upgrades is $5,400 per server.

Downtime

Downtime comprises both scheduled and un-scheduled downtime. Together, the average cost is $63,064 per server, per year.

Training

Based on research with Microsoft Exchange customers the cost of training works out to $1,385 per server per year.

4.2.1 TCO without HP RISS

Using all the above figures, we can estimate that the Total Cost of Ownership for an average company of 10,000 users will be $3,144,421 in the first year. This assumes that the acquisition of the first 31 servers has already occurred in previous years.

As the number and size of emails increases, the same company will have to add two more servers in the second year. This will bring up the Total Enterprise Cost to $3,413,503 in the second year. The addition of four more servers in the third year brings the third year cost up to $3,881,017.

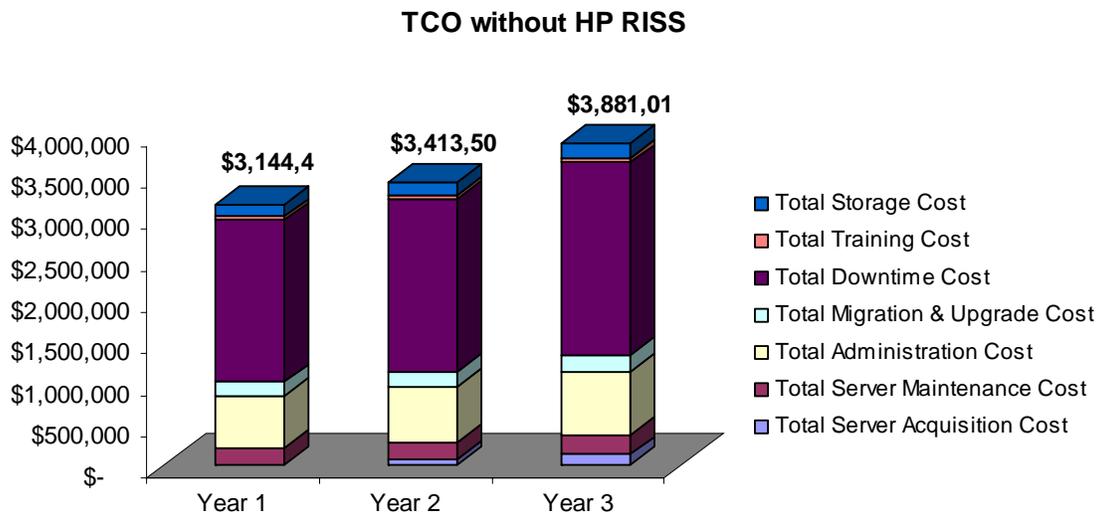The average TCO (over a three-year period) for a 10,000 user organization is therefore $3,479,647 per year.

TCO without HP RISS

Figure 6: TCO without HP RISS

TCO with HP RISS

Alternatively, if the company deploys the HP solution from the start, it can reduce the online mailbox size of 294MB to 95MB—with no loss in usability or functionality—allowing the company to reduce its servers from 31 to 10, a 68% reduction.

The cost of acquiring HP RISS will be approximately $400,000 for 5TB of storage – this includes all hardware, software and storage costs. Plus we assume an operational cost of $25,000/year and maintenance cost of $80,000/year.

These HP acquisition and operational costs are immediately offset by a reduction in the number of servers, which results in:

- Lower maintenance costs
- Lower administration costs
- Lower downtime costs
- Lower training costs
- Lower storage costs

The total 1st year savings obtained by deploying RISS amount to $1,752,511, a 56% TCO reduction in the first year alone. In addition, the company now has an excess of 2.0TB storage capacity which allows for comfortable future growth.

If we assume continued growth of email volumes and sizes, the company will save an additional $2,341,593 in the 2nd year of operation (i.e. a 69% TCO reduction), and an additional $2,809,107 is saved in the 3rd year of operation (i.e. a 72% TCO reduction).

If we look at the cost savings of deploying RISS over a 3 year period, we find it averages 66% a year over the three year period.

	Year 1	Year 2	Year 3	Year 1 w/RISS	Year 2 w/RISS	Year 3 w/RISS
# of Msgs. Sent/Received per Day	133	138	145	133	138	145
Avg. Msg. Size (MB)	0.111	0.115	0.121	0.111	0.115	0.121
Total # of Users	10,000	10,000	10,000	10,000	10,000	10,000
Total Storage Required for All Users per Year (MB)	2,940,000	3,174,000	3,509,000	2,952,600	3,174,000	3,509,000
Avg. cost of Storage per MB	$0.05	$0.05	$0.05			
Total Storage Cost -- All Users per Year	**$147,000**	**$158,700**	**$175,450**	**n/a**	**n/a**	**n/a**
Storage Capacity w/RISS (MB)				5,000,000	5,000,000	5,000,000
Spare Storage Capacity (MB)	n/a	n/a	n/a	2,047,400	1,826,000	1,491,000
Avg. max. capacity storage per Server (MB)	95,000	95,000	95,000	95,000	95,000	95,000
Total number of servers	31	33	37	10	10	10
HP RISS Costs:						
RISS Acquisition Cost				**$400,000**		
RISS Maintenance Cost				**n/a**	**$80,000**	**$80,000**
RISS Operational Cost				**$25,000**	**$25,000**	**$25,000**
Cost Summary -- For All Servers	Year 1	Year 2	Year 3	Year 1 w/RISS	Year 2 w/RISS	Year 3 w/RISS
RISS Acquisition Cost	n/a	n/a	n/a	$400,000	$0	$0
RISS Maintenance Cost	n/a	n/a	n/a		$80,000	$80,000
Total Server Acquisition Cost	n/a	$64,000	$128,000	n/a	n/a	n/a
Total Server Maintenance Cost	$198,400	$211,200	$236,800	$64,000	$64,000	$64,000
Total Administration Cost	$633,702	$674,586	$756,354	$204,420	$204,420	$204,420
Total Migration & Upgrade Cost	$167,400	$178,200	$199,800	$54,000	$54,000	$54,000
Total Downtime Cost	$1,954,984	$2,081,112	$2,333,368	$630,640	$630,640	$630,640
Total Training Cost	$42,935	$45,705	$51,245	$13,850	$13,850	$13,850
Total Storage Cost	$147,000	$158,700	$175,450	n/a	n/a	n/a
RISS Operational Cost	n/a	n/a	n/a	$25,000	$25,000	$25,000
TOTAL COST	**$3,144,421**	**$3,413,503**	**$3,881,017**	**$1,391,910**	**$1,071,910**	**$1,071,910**

Table 2: TCO Comparison

3 Year Messaging TCO Comparison - With and Without HP
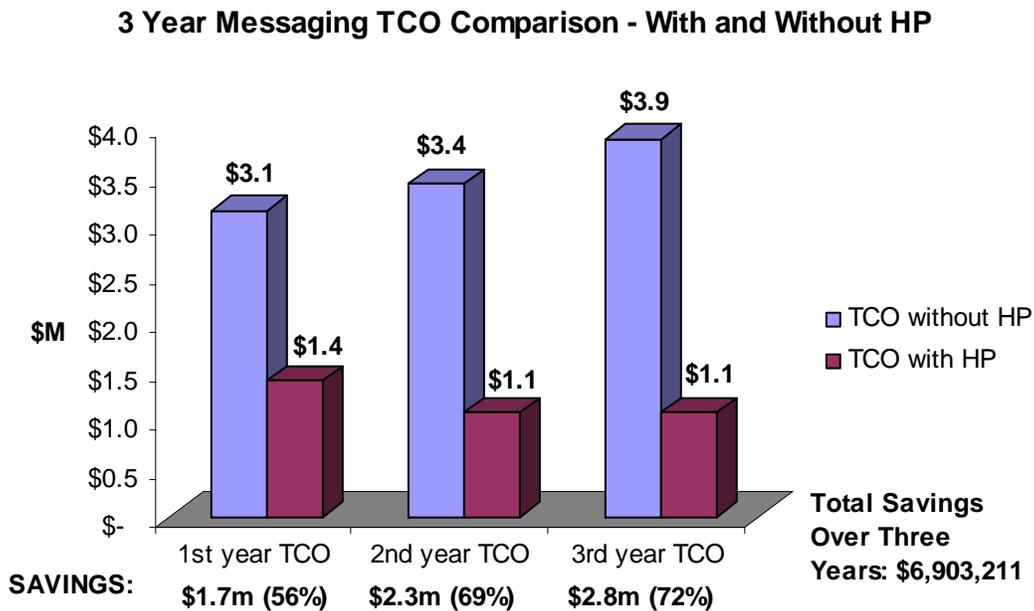

Figure 7: Three Year TCO Summary

4.2.3 Other Considerations

There are numerous intangibles which are too difficult to measure in the context of TCO hard cost savings, but important to mention, such as:

- By using RISS, organizations can get free themselves from trying to manage individual PST files, saving time, money, and PC resources.

- HP RISS allows users to search all emails, documents, and attachments extremely rapidly and efficiently, giving users access to more information, quickly, and ultimately increasing productivity. For organizations required to comply with email retention regulations, the ability to quickly retrieve specific messages is crucial.

- With HP RISS, corporations can easily import legacy email data back into the system, increasing the information bank available to end users.

5.0 Return on Investment (ROI)

Table 3 shows the 3-year ROI summary of deploying the HP RISS solution in a 10,000 user organization.

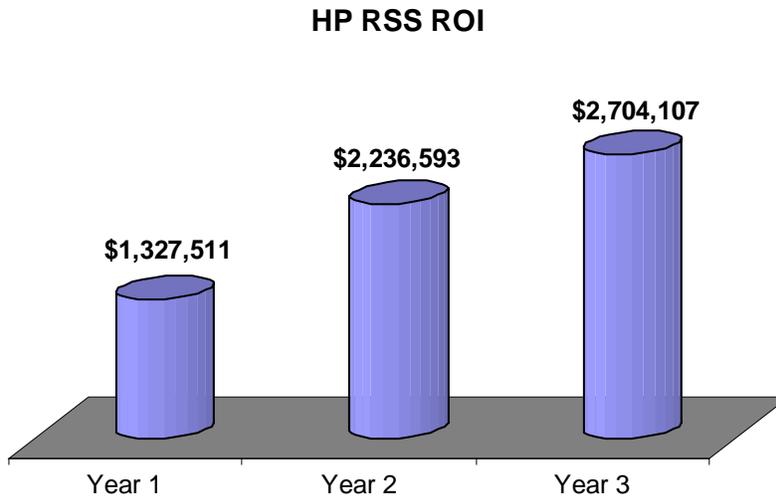|	HP RISS Cost	Messaging Cost Savings	ROI ($)	ROI (%)
Year 1	$ 425,000	$ 1,752,511	$ 1,327,511	212%
Year 2	$ 105,000	$ 2,341,593	$ 2,236,593	2030%
Year 3	$ 105,000	$ 2,809,107	$ 2,704,107	2475%
3-Year Average	$ 211,667	$ 2,301,070	$ 2,089,404	1573%

Table 3: HP ROI

HP RSS ROI

Figure 8: Three Year ROI Summary

Return on Investment % is calculated using the following formula:

$$ROI \% = (Savings\text{-}Costs) * 100 / Costs$$

- *We see that the first year ROI of deploying HP RISS in a typical 10,000 user organization is 212%. This return grows much higher in years two and three.*

The payback period to recover the initial investment is calculated using the following formula:

$$\text{Payback Period} = 1^{st} \text{ Year Costs} / (1^{st} \text{ Year Savings/12 months})$$

- *The payback period for a 10,000 user organization is approximately 4 months.*

6.0 Conclusions and Recommendations

While email has become an invaluable application in the workplace, its growth and storage requirements are growing out of control.

There are a host of potential solutions being offered to address this problem; unfortunately, the majority of these are expensive, difficult to integrate and manage, or disruptive to end-user productivity. In general, they are symptomatic remedies, as opposed to permanent solutions for the source of the problem.

The correct solution to the e-mail storage problem is one that provides customers with abundant storage, is simple to install and manage, does not affect end-user productivity, and ultimately lowers TCO.

The HP RISS Solution represents a "true solution" to the email growth problem:

- **Lower TCO** – Since the majority of email storage is placed on the HP solution, the customer can greatly reduce the number of servers needed. This results in significant cost savings in terms of administration costs, maintenance costs, training costs, and downtime. A 10,000 user company could expect to save an average of 53% per year over a three-year period.

- **Regulatory Compliance** – RISS automated archiving technology provides organizations with an easy answer to the daunting family of regulations that have emerged. A full-text search tool, located with MS Outlook, gives end users intuitive access to their archived messages and provides administrators with instant retrieval of messages in the case of audits.

- **Improved User Productivity** – End-users will receive a supplemental "ActivArchive Inbox" in their email client, which requires virtually no training. More importantly, obstructive mail quotas and other restrictions for end-users can be avoided.

- **No more PST Archives** – RISS consolidates poorly managed, non-compliant personal email folders (PST files) into consolidated, centrally managed and easily searchable reference information storage.

- **Simple to Install and Manage** – Because of the system's plug-and-play architecture, installation time is reduced. The product also offers self-diagnosis and self-healing features, to reduce the administration requirements.

HP delivers a truly valuable solution. Enterprises that deploy RISS will enjoy instant relief to the email storage crisis, along with a more efficient email system operating at a significantly lower TCO.