The Value of Compliance:
How HP's Reference Information Storage System Creates Compelling Cost Savings

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This paper defines the cost advantages of the Reference Information Storage System (RISS) when applied to email systems in general and when applied to specific functions such as electronic evidence discovery (EED) or regulatory compliance.

HP's Reference Information Storage System (RISS) provides an all-in-one tamperproof, fully content-indexed archive to help customers meet their compliance needs. The summary of value statements for RISS includes:

- Significant cost and time savings for searches
- Ease of deployment to get to compliance
- Cost savings from a stabilized email system, including server consolidation
- Avoidance of fines

A summary of the cost saving by RISS follows:

Category	Cost Examples	RISS Savings	ROI-TCO
EED Searches (average of cases)	$250,000 to $6.2M per search	$250,000+ per search	Depends on number of searches
Ease of Deployment Compared to ISVs	Possibly weeks or longer	One week	Depends on IT experience
Email system (3 year average)	$1.6M	$1.2M	681%
Avoidance of Fines (average of cases)	$1.8M per case	$1.8M per case	Depends on number of cases

HP's Reference Information Storage System (RISS) is an active archiving platform that transforms unstructured data into exploitable information that can be retrieved in seconds. Reference Information Manager (RIM) for Messaging is an email archiving application that reduces the cost of email storage and helps address compliance needs. RIM for Messaging is specifically designed as an application connector to the HP Reference Information Storage System (RISS).

RISS is an easily deployed and managed archive appliance that offloads data from corporate email servers, thereby improving performance of the email infrastructure and reducing the need for additional email servers.

RISS also provides web-based and email client advanced search capabilities that support nearly instantaneous searches of even very large amounts of archived data, giving customers the ability to respond quickly to government requests for document retrieval as well as supporting corporate litigation discovery activities. Archived data is time-stamped and secured against tampering. Archived data is retained based upon administrative policies and then electronically shredded at the end of the retention period.

The key value of RISS in EED is automating what can be a costly and time-consuming discovery process and the avoidance of fines by retaining relevant information in a tamperproof way that is easy to retrieve when it is needed. RISS also provides a means for destruction of documents according to a planned and documented process of document management, yet allows for requested documents to be protected in a quarantine repository for the duration of a litigation hold without fear that they will be prematurely destroyed regardless of the initial retention policy on those documents prior to quarantine.

Value #1: Improved Searching Methods

Without RISS, the ability to search for email messages mentioning specific phrases or keywords is a laborious, sequential, manual process. In Microsoft Exchange, each user's PST file(s) need to be loaded and scanned for the keywords, a process that can literally take months, depending on the number of users. Some users create multiple PST files to avoid file limits placed on them by the Exchange administrators. This tactic can create many PST files per user (sometimes as many as one PST file per month).

The searching and collection of relevant email messages can increase exponentially if the user community and the IT staff save various copies of PST files. (Figure #1). The IT staff may have PST backup procedures, but these procedures are usually based on the need to restore the PST files after a disaster, such as a disk failure or virus. In these cases, the backups are held for usually less than one month. In addition, the number of PST files can be increased substantially by users creating their own PST copies to circumvent email system capacity limits. The number of PSTs can be compounded by proper procedures for PST use not being communicated to the user community, or not decided upon, or both.

With RISS, all of the user's PST files can be placed into one tamper-proof archive that is searchable by designated administrators. The results of the searches can be placed in separate repositories and held for specific uses. The ability to delete and destroy emails after a specified time period is preserved, based on which repository is holding the messages.

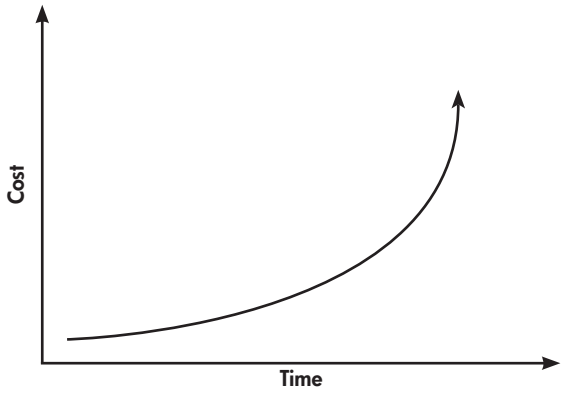


Figure #1: Projected costs of searching multiple PST files

Even when retention policies are in place, companies often have only a matter of days to turn over requested documentation for government audits or litigation-related electronic evidence discovery. The RISS/RIM solution eliminates the need for this costly and time-consuming process because it provides full-content indexing of all emails and office documents and advanced search capabilities that return search results in 3-5 seconds no matter how large the store of archived data.

Here are some sample cases of relevance:

- The case that is cited most often related to the costs and cost allocation associated with production of electronic evidence is Zubulake v. UBS Warburg LLC (2003). In that case the plaintiff, Laura Zubulake was claiming gender discrimination. She requested the production of all communications relating to her that were sent or received by five specific employees of UBS over a two and one-half year period. UBS claimed that it would cost $166,000 to restore and search 77 backup tapes and another $107,000 to have an attorney and paralegal review the recovered emails. In the end UBS paid $19,000 to restore and analyze information from five of the 77 backup tapes, resulting in 600 responsive emails.
- Murphy Oil v. Fluor Daniel (2002): Murphy Oil requested production of certain email messages stored on backup tapes that were written by 37 "key players" (employees of Fluor Daniel) during a 14-month time period. There were 93 backup tapes (each containing approximately 25,000 emails) for over 650 employees during the requested timeframe. Fluor estimated it would cost $6.2M and take 6 months to produce hard copies of relevant emails from that number of backup tapes.

- Wiginton v. Ellis (2004): As evidence of an allegedly hostile work environment, plaintiffs sought discovery of pornographic material they claim was distributed electronically throughout CB Richard Ellis, Inc.'s offices. In response to the discovery request CBRE produced 94 monthly e-mail backup tapes from 11 offices. An outside firm was retained by Plaintiffs to restore and extract the user e-mails from the tapes, perform searches for keywords and file attachment types, and load the results of the searches for review. The firm estimated that recovery of relevant data from backup tapes would cost $249,000.

RISS supports MS Exchange versions 5.5 and above, and Lotus Domino/Notes R5 and R6, covering the vast majority of corporate mail installations. The RISS web-based search tool can readily display messages from older versions of email software, eliminating the need to recreate older messaging environments in order to search archived messages.

Not having this flexibility can be costly, as exemplified in Byers v. Illinois State Police (2002): This was an employment discrimination suit and the plaintiff requested the defendant (Illinois State Police) to produce email messages written by a particular employee of the State Police department about the plaintiff from 1994 to 2002. The old emails were on backup tapes.

The defendant encountered a complication in restoring older messages. The police department had changed email programs during that time period and would need to license the old program in order to read any restored messages. That would cost $8,000 per month for an estimated total cost of $20-30,000. Those fees do not include the cost of restoring the tapes. They merely reflect the licensing fees for the use of the old mail program for the duration of the recovery.

By comparison to any of the above examples, a 5TB RISS system would cost approximately $400,000, and each of the searches would take less than 5 seconds to scan the entire RISS archive. **Literally, the RISS system would pay for itself in one or two searches.**

It is important to note that we have not even discussed the ability of RISS to be used as a corporate resource. Searches do not have to be limited to EED but could also be executed to identify patterns of email, track new groups or distribution lists based on email traffic, and for other corporate wide searches. It is difficult to assign a monetary value to this search and retrieval capability, but the value is nonetheless clear.

Value #2: Ease of Deployment

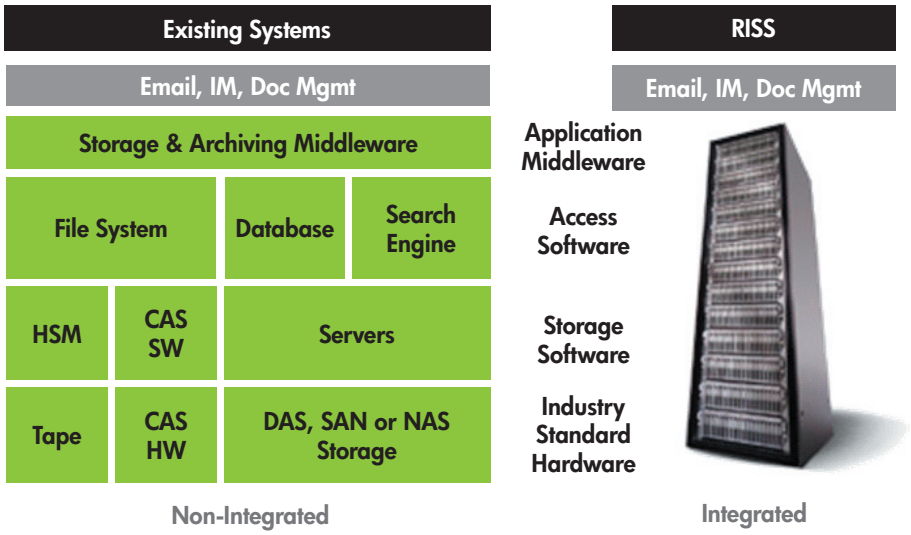
A traditional archiving solution for email is architected layer-by-layer and comprised of many independently administered components. At a minimum, one or more IT departments within the corporation will provide and maintain standard Windows servers, email archiving software, a search engine, a database server (or servers), HSM software, clustering for redundancy, and IT staff to manage these disparate systems. Most of these systems tend to be complex, proprietary, non-integrated, and monolithic.

By contrast, the RISS/RIM solution is an all-in-one archiving system that is pre-configured and self-contained and installed and configured on site by HP. Policy management is simple and accessed by an administrator or compliance officer through the Platform Control Console (PCC). Once the policies are configured, the RISS acts as an appliance without further administrative intervention. Redundancy is built into the system and multi-site replication is available. System health is monitored using standard SNMP-based network management applications. RISS is highly scalable and is designed to handle increasing amounts of data without loss of search and retrieval performance.

This approach to deployment reduces costs in several ways:

- RISS is seamlessly integrated into the existing email environment with no negative impact to the existing infrastructure. It acts as an appliance and does not require a full time dedicated system administrator.
- Software upgrades and patches can be easily applied remotely across the appliance via a PXE-based installation server.
- The RISS email client plugin for Outlook or Notes is easily installed, accessed, and understood by the user community and the administrative staff, thus reducing training costs and time away from the user's jobs.
- RISS is scalable, holding up to petabytes of data, and can be easily extended without the need for costly infrastructure redesign and adjustments. The RISS architecture assures a 3-5 second return time of search results regardless of the size of the archive.

The typical deployment for the RISS solution (hardware and software) takes approximately one week, as compared to up to several weeks or longer to examine, select, purchase, install, test, and deploy a piecemeal approach of ISV and hardware vendors.



Value #3: Cost Savings from a Stabilized Email System

Email systems were originally designed to effectively route and deliver messages to a large user community. They do this based on practical limits of the number of email messages to be sent per user, and the ability to store a reasonable number of messages over time. If the number of stored messages grows, then the parameters and limits of the email system need to be expanded. This expansion can cause redesign, additional equipment purchases, and substantial staff time spent reconfiguring the email system. Literally every facet of the email system needs to be expanded, including backup and recovery procedures, sizing of disks and LUNs, number of servers to support the increased message traffic, and stress on the underlying network to support more data traffic.

The total cost of ownership grows exponentially as a function of the number of documents archived, while the search and retrieval performance decreases exponentially. Please note the following figure:

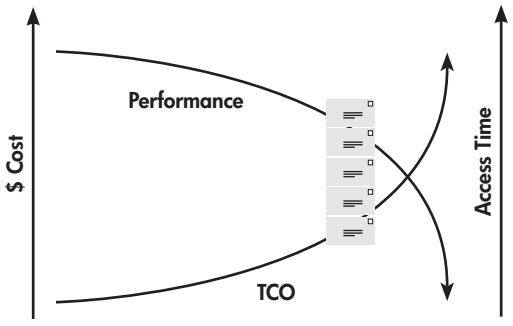


Figure 2: TCO as a Function of the Number of Documents

RISS can stabilize the existing email environment by offloading older messages and large attachments from the mail store into the archive.
The RISS cost savings are based on:

- Fewer equipment purchases (servers & storage) caused by increased capacity needs
- Less time spent by the IT staff on repetitive functions such as increasing mailbox sizes
- Reduced email system backup windows
- Improved user satisfaction levels since they don't receive "mailbox full" messages, and
- Less duplication of saved email messages (RISS de-dupes messages)

Plus, RISS allows the email system administrators to set the typical user mailbox size at a lower capacity than what is current, thus allowing a reduction in email servers.

A summary of the cost savings from stabilizing an email system with RISS are:

	RISS Cost	Messaging Cost Savings	ROI ($)	ROI (%)
Year 1	$425.000	$1,121,667	$696,667	164%
Year 2	$105,000	$1,620,859	$1,515,859	1444%
Year 3	$105,000	$2,219,569	$2,114,569	2014%
3-Year Avg	$211,667	1,654,032	$1,442,365	681%

Table 1: RISS ROI

RISS can be thought of as an extension to the existing email system. When users request a message that has been moved into the RISS archive the response time is very similar to the response time of the email message being retrieved from the email host server.

According to a recent Radicati Group whitepaper (Active Policy Management – Third Generation Compliance for Today's Corporate Environment, February 2005), the number of corporate e-mails sent daily is projected to increase at a compound annual growth rate of over 13%, from 64 billion messages in 2004, to 103 billion messages per day in 2008. IT departments with limited budgets must struggle to keep up with growing email architecture demands by adding more email servers and storage, restricting user mailbox sizes, or allowing users to store PST files on corporate fileshares.

Implementing HP's RISS/RIM solution helps IT departments offload the burden from email servers by selectively mining aging or oversized email and attachments from user mailboxes based upon administrative policies. Messages mined into the RISS archive are then content-indexed, de-duplicated, digitally signed, and available for the user to access at any time. Mailbox sizes can be managed centrally in a way that preserves the performance of the primary email system and allows users easy access to their entire email repository without the need to maintain offline PST files.

Email Stabilization ROI – TCO Calculations

The following text was excerpted from the white paper: Taming the Growth of Email – An ROI Analysis, White Paper by The Radicati Group, Inc. May 2003.
A complete copy of the whitepaper is available upon request.

Storage Costs

Assuming an average of 120 email messages per day, with an average size of 0.08MB per message, the average user would need 9.6MB of storage per day. Assuming an industry standard retention period of 30 days, this means an average user requires 192MB of storage per year. Using an average cost for storage in Exchange environments of $0.07/MB, yields a total cost of $134,400 in year 1 for a 10,000 user organization.

Email Storage Cost Without RISS

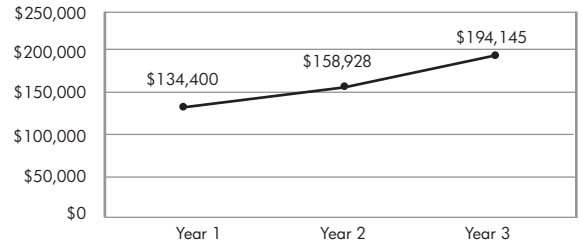


Figure 3: Email Storage Costs Without RISS Deployed

Based on industry statistics, the number of email messages is growing at an average of 7.5% per year, and the size of email messages is growing at an average of 10% a year. The result of all this is that the storage requirement will grow to 227MB per user per year in year 2, and to a further 277MB per user per year in year 3.

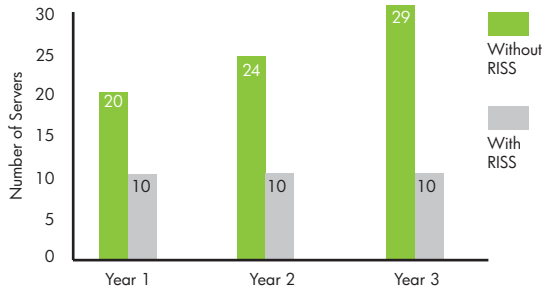


Figure 4: Number of Email Servers Required With and Without RISS Deployed

TCO with RISS

Alternatively, if the company deploys the RISS solution from the start, it can reduce the online mailbox size of 190MB to 95MB—with no loss in usability or functionality—allowing the company to reduce its servers from 20 to 10, a 50% reduction.

The cost of acquiring 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.

These RISS 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 first year savings obtained by deploying RISS amount to $696,666, a 33% TCO reduction in the first year alone. In addition, the company now has an excess of 3.0TB storage capacity which allows for comfortable future growth.

If we assume continued growth of email volumes and sizes, the company will save an additional $1,515,861 in the 2nd year of operation (i.e. a 59% TCO reduction), an additional $2,114,569 is saved in the 3rd year of operation (i.e. a 66% TCO reduction).

If we look at the cost savings of deploying RISS over a 3 year period, we find it averages 53% a year over the three year period.

3 Year Comparison - Without and With RISS ($M)

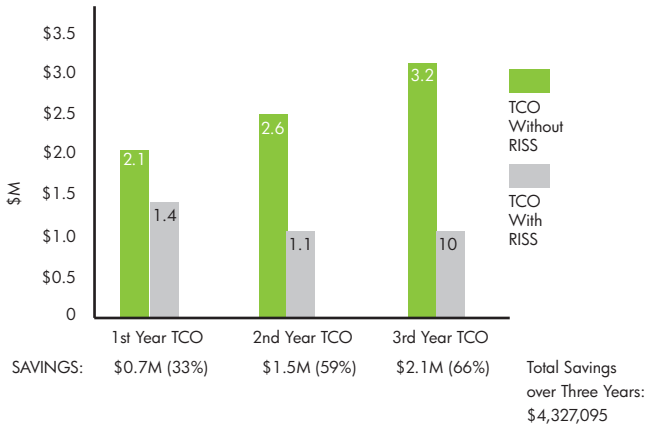


Figure 5: Three Year TCO Summary

Value #4: Avoidance of Fines

The SEC, NASD Investment Advisor's Act, and Sarbanes-Oxley legislation identify electronic communications such as email and instant messaging as business records. Strict regulatory guidelines require that programs and processes be established for email and document retention, indexing, search capability, and redundancy. Fines for non-compliance are severe. In December 2002, the SEC imposed fines totaling $8.25 million on five of the largest brokerage houses for violating e-mail record-keeping requirements.

Regulations	Industry Affected	Penalties/Non-Compliance
SEC 17a-4	Securities	Fines and Imprisonment
NASD Rules 3010 and 3110	Securities	Fines
Sarbanes-Oxley	Public Corporations	Fines to $5M and 20 years Imprisonment for destroying emails
COSO	Public Corporations	Fines May be Covered Under Sarbanes-Oxley
Gramm-Leach-Bliley	Financial Institutions	Fines and up to 5 years Imprisonment
California Privacy Law (SB 1386)	Any Company Doing Business with California Residents	Civil Action Allowed for "Injured" Customers
HIPAA	Medical	Fines to $250K and Imprisonment up to 10 years
Freedom of Information Act	Any Company Doing Business with any Federal or State Agency or Funded Institution	Potential Damage to Corporate Reputation

Regulations	Industry Affected	Penalties/Non-Compliance
ISO 17799	Potentially Required for Cyber-Liability Insurance	Potential Damage to Corporate Reputation
USA Patriot Act	Potentially any Entity in the USA	Fines and Imprisonment
Canadian Personal Information and Electronic Documents Act	Any business under legislative authority of Parliament	Fines up to $100K
Canadian Ontario Secutiries Commission, Commodity Futures Act	Canadian Commodities Trading Institutions	Fines up to $5million and Imprisonment up to 5 Years minus one day
Canadian, Ontario Securities Commission, Securities Act	Canadian Securities Trading Institutions	Fines up to $5million and Imprisonment up to 5 Years minus one day

Table 2: Regulations by Industry

There are also fines assessed by judges if parties are seen to have purposefully destroyed documents that should have been on litigation hold:

- United States of America v. Philip Morris (2004): Philip Morris was sanctioned $2.75M and had an expert precluded from testifying because defendants continued to delete emails when they reached 60 days of age despite the litigation hold that was in effect.
- ARTHUR ANDERSEN: Went bankrupt because of violation of retention policy
- BANK OF AMERICA: SEC imposed a $10 million penalty on Bank Of America for extensive problems with e-mail and document preservation and production

Conclusion

Any one of the cost savings detailed above would warrant significant examination of the Reference Information Storage System (RISS) solution and its applicability to a client's needs. Together, they form an incredibly strong value statement. When this value statement is coupled with the need to comply with government regulations, the ability to respond in a timely manner to requests for data, and improved methods for email operation, the choice for RISS becomes compelling.

To learn more about HP's Reference Information Storage System, please go to http://wwww.hp.com/go/ilm

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