

**Communication and Documentation in the Global Enterprise:
The Business Case for Robust Email Management & Storage Centralization in
Europe and North America**

A Frost & Sullivan White Paper Sponsored by ZANTAZ and EMC
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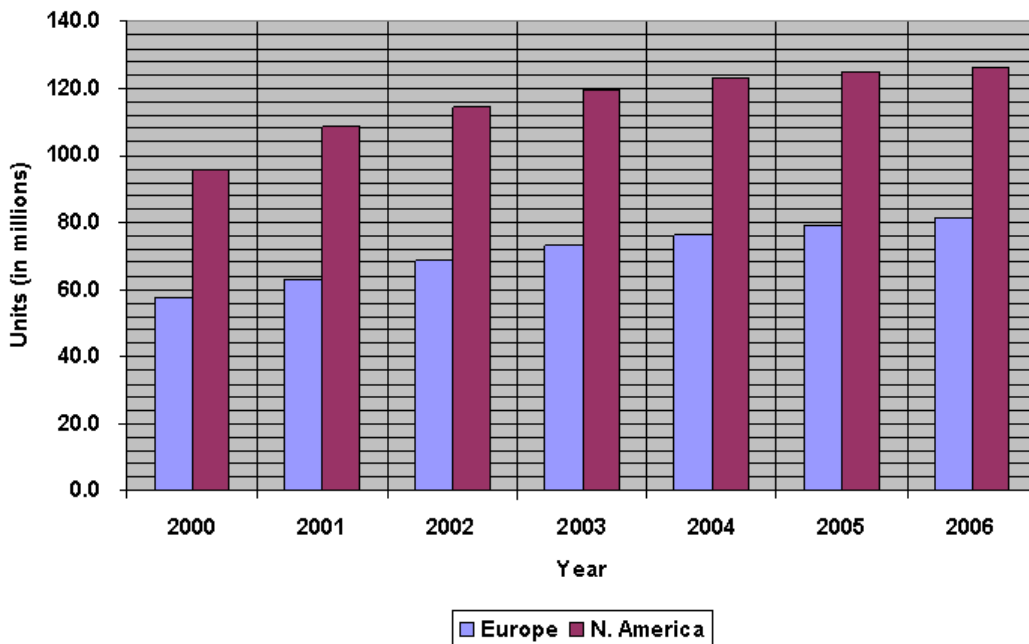
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Introduction

Throughout the 20th century, multinational business relied upon telecommunications technology to facilitate day-to-day operations. The same concept applies for business in the 21st century except that businesses are far more reliant upon telecommunications technologies than they have ever been in the past. The telecom industry has made possible enormous advances in global communication through the development of the Internet, email, and instant messaging technology. In a period of ten short years, global communications has moved from daily reliance on the telephone, paper documents, the postal service, couriers, and fax machines, to instantaneous electronic communication and electronic sharing of data and documents.

Although the Internet and subsequent development of the World Wide Web was a major leap forward in global communications, a larger disruptive technology was born in the form of email. Formerly used only by large corporations and universities, email has been adopted by most businesses around the world and has become the communication medium of choice for domestic and international business. In fact, it has been so widely adopted that it is estimated that 85 percent or more of all business content is either created in email applications or forwarded to others as email attachments. As a result, email provides a written record of many functions and transactions of daily business and has become an indispensable tool. It has reached a point where lost email records can have a significantly negative impact on business continuity, productivity, and operational costs.

Business Computers with Email Access: Europe and North America (Canada, Mexico, & U.S.)



Note: All figures are rounded. Source: Frost & Sullivan

Due to the fact that email is a pillar of both public and private sector business the task of guaranteeing email uptime and availability is one of the most critical functions for any IT department. Complicating the situation further is the issue of regulatory controls as it pertains to privacy laws, freedom of information acts, or to individual industries that have been identified as needing government oversight. These industries include aerospace and defense, healthcare, financial services, legal services, and transportation services.

Worldwide Email Management Business Challenges

Differing Email Administrator & Email User Needs Create a Lose-Lose Scenario

Email has become ubiquitous in all sizes of organizations. Over that time, it has become painfully clear that the business needs of the email administrator and the email user are not harmonized. As email usage continues to increase, the problem is becoming compounded every year. What has led to a worsening tug of war between the business requirements of the email user and the email administrator is that business users have a well-defined need to keep certain email threads indefinitely. Unfortunately, that business user need is in direct conflict with email performance and back up requirements that the email administrator cannot ignore.

Email Archive Challenges in Microsoft Exchange and Lotus Notes

The conflict has placed email administrators and end users into tug of war situation wherein email users with a need to keep messages for months or years inevitably hit account storage limits imposed by the IT department. On the surface, email users believe that the storage limit is an arbitrary decision made by an IT department that refuses to purchase additional storage capacity. Many email administrators have balanced this limit by allowing users to establish local email archives. In this situation, business email no longer resides on the email server; it is downloaded from the server to the local hard drive of the email user.

Four key problems arise from this solution, the first is that local archives grow in size over time and have a tendency to become unstable as they grow. The second problem is that when mail is pulled from the email server and stored in a local archive, users are often no longer able to access previously archived emails on the road, or if they switch PCs. The third problem that all users face is the risk of data loss on their PC due to dangers ranging from virus or worm infection to hard drive failure or even the installation of a new system image by the IT department. If the data loss affects the local email archive, the benefit of bypassing email server storage limits by creating a local archive is lost. Finally, corporate MIS departments rarely manage local email archives. These archives are therefore not subject to corporate email policy. Local email archives may therefore contain copies of messages that, according to corporate policy or law, should have been destroyed.

Operational Cost Implications of Archiving on Exchange or Lotus Notes Email Servers

Using email servers for Exchange or Lotus Notes as an email archive repository is not an ideal solution to the dangers associated with local email archives either. Email administrators have long been familiar with the problem email servers have with high volumes of email. Specifically, as the email archives on the servers grow, the performance of the email server decreases and the stability of the platform erodes. Thus the logical solution, from the viewpoint of email administrators, is to limit email account storage limits. As noted previously, that strategy is in direct conflict with business user needs and has forced email users to create local archives.

At first glance, email administrators believe that showing business users how to create local archives will satisfy both the needs of end users as well as the IT department, but that is an incorrect assumption. It well known that over the life of a computer that data loss will likely occur and that local email archives have a high chance of being damaged or destroyed. When local email archives are corrupted or lost, the end result is for the business user to place a help desk request to the IT department. The act of restoring lost local email archives can be time consuming and costly for the IT department. The email administrator will have to rebuild a business user account from numerous back up tapes, which can take hours or days depending on the period of time in question.

Unique Email Management Needs in the European Union

Common Practice in the European Union

Companies in the European Union have distinctly different email retention requirements than their counterparts in the United States. In the U.S., Securities and Exchange Commission (SEC) regulations and new laws such as Sarbanes-Oxley (SOX) require companies to retain and archive various types of informal communications from email and instant messaging (IM) clients. European companies are not subject to similar regulations as of Q1 2005. In contrast to the U.S., European companies are only required to retain formal communications such as test results, investigation results, completed documents, or application data.

As of the first half of 2005, Europe continues to lack clear regulation pertaining to informal email messages and IM chat sessions, however there is a high expectation among European executives that regulation similar to SOX in the United States will be passed into law by EU regulators. A potential sticking point for SOX-type regulations however, is the EU privacy directive that requires all EU member countries to protect the privacy of private citizens such that informal communications such as email can only be retained as long as necessary, and then those communications must be destroyed.

Although executives expect regulatory changes to mandate the archive of informal communication via email and instant messaging, it is unclear how potential conflicts between SOX-type regulations and the EU data privacy directive will be solved. Until that situation is

encountered in the EU, the majority of European companies will continue to only archive email messages considered to be formal communications.

European Business Drivers for Email Management

Operational Efficiency

Despite a lack of SOX-type regulatory guidelines in Europe regarding email archive, email management is important to European organizations interested in operational efficiency and cost reduction. European business has found that annual email storage requirements have increased between 40 and 60 percent annually. This growth is driven by both live server growth as well as personal email archive growth. In many organizations, it is common to find multiple copies of each email and email attachment, one on the live server and several copies within the local archives of each user who received the email.

To address this burgeoning storage requirement, European IT departments are recognizing the need to offload email storage requirements to a centrally managed repository that stores messages and email attachments once. By offloading archives from the email server to a central storage repository, email administrators are able to eliminate the need for local email archives, as well as the need to store email and attachments multiple times on email servers. These measures can enable an organization to realize storage savings of up to 75 percent and eliminate the need to purchase additional storage each year.

Additional efficiencies are obtained through reduced backup and restore times for email servers when data is regularly offloaded from the email servers. The result is improved service levels and a significantly smaller risk of a business being negatively impacted by an email server failure.

Contract Law, Labor Law, and Freedom of Information Acts

Aside from the horizontal operational efficiency business drivers discussed above, European contract and employment law also drive email archive and centrally managed single instance storage implementation. Although data privacy is important, emails pertaining to the dismissal of an employee can be called up and referenced in court, therefore it is paramount that a business has fast and easy access to older archived emails in the event of litigation. In addition, contract law continues to push IT teams toward email archive management and single instance storage technology to ensure that changes are not made surreptitiously during or after contract terms have been negotiated.

Finally, as laws such as the Data Protection and Freedom of Information Act are implemented in Europe, information requests by private citizens will grow simultaneously increasing the costs associated with information retrieval, particularly when the information requested pertains to email and email attachments. It has been determined that in the UK alone, a request by a private citizen to a government entity for copies of all email correspondence pertaining to

the requesting party can cost the government upwards of \$6,000 to \$7,000 per request. Costs are so great because the data is usually spread across several archives and/or back up tapes and the time and labor required to find all of the requested data quickly adds up. The problem is further exacerbated by the fact that the requesting party is only required to pay a fee equal to \$18 (£10). This cost issue fades away with the implementation of an easily searchable email archive management system that uses a single data repository.

North American Needs for Email Management

With an increasingly global economy, European companies are being forced to comply with North American regulations. North American and more specifically U.S. companies as well as all foreign owned public companies that trade their stock in U.S. securities markets are subject to Sarbanes-Oxley (SOX) as well as SEC regulations. Although as SOX has resulted in some foreign owned companies withdrawing their stock from U.S. securities markets, most have decided to comply with SOX stipulations. These companies have been forced to archive formal as well as informal electronic communication and records to maintain compliancy.

Where European companies have been driven toward email management and archive out of operational need, public companies operating in the U.S. have moved towards email management solutions due to regulatory pressures. In fact, the trend towards email archive management and centralized storage is not exclusive to publicly traded companies, it is occurring across all industries as a result of regulations pertaining to workplace conditions, export controls, and environmental safeguards, as well as issues pertaining to litigation support.

North America Business Drivers for Email Management Compliance and Litigation Support

Two interrelated business drivers for email management and storage centralization in North America come from the need to comply with regulations that stipulate retention of all electronic communications for a specified period of time. Government investigations and litigation are forcing email administrators to move away from advising business users to use local email archives. In addition, the need to quickly respond to government inquiries has made reliance on tape back up of email inconvenient and costly at best. At its worst, reliance on tape back ups of email can entail data loss, inability to respond to inquiries in a timely fashion and inability to prove archive data has not been tampered with. Failure in any of the above areas could lead to fines, increased legal costs, or worse.

Furthermore, in the case of disputes involving contracts, intellectual property, or labor disputes, email records can be subpoenaed by opposing legal teams. When these records are not provided in a timely fashion the defending organization can be found to be in contempt and penalized by a judge, which can at times take the form of a judgment in favor of the plaintiff.

Storage and Administration Efficiency

Similar to Europe however, email storage and administration efficiency is the main business driver causing North American business to seek out and implement email management platforms with centralized single instance storage. The key difference is that the North American market has been forced to find an email archive management solution due to regulatory stipulations in SOX, Gramm-Leach-Bliley (GLB), as well as requirements by the National Association of Securities Dealers (NASD), and New York Stock Exchange requirements.

It is important to point out however, that electronic communication archive needs arise from more areas than just finance and financial services. Email archive requirements can also be found or implied in the TREAD (Transportation Recall, Enhancement, Accountability, and Documentation) Act, in Title 14 of the U.S. Code of Federal Regulations pertaining to aircraft maintenance records, in the export compliance program managed by the Office of Defense Trade Controls, and in both the Arms Export Control Act and the International Traffic in Arms Regulation. Email archive regulations are appearing in many regulated industries. In short, government mandates to preserve electronic communications in the form of email and instant messages have significantly contributed to the email storage problem. IT departments must find ways to not only retain email for a set number of years but to destroy all instances of those messages when the time period expires. Simultaneously, IT departments must more efficiently manage growing email archives and storage repositories.

Frost & Sullivan Opinion On Email Management and Storage Centralization

As organizations in Europe and the United States are forced to recognize email as the primary means of business communication, they must admit that this communication medium requires better management and storage options. It is a fact that email usage and storage requirements are growing rapidly every year. IT policies that impose storage quotas on users forcing the creation of local email archives is not conducive to business continuity nor to an organizations ability to rapidly provide old email messages to government bodies or legal teams.

Furthermore, IT policies that create storage quotas for email accounts on the server have been shown to not only increase the storage required by an organization, but also increase the number of help desk requests to restore lost email. Both scenarios result in increased operational costs for IT.

Businesses across all industries and geo-political boundaries must come to terms with the fact that an email management platform that can offload email archives to a central networked storage array is an integral part of email infrastructure in the 21st century. The era of forcing business users to create local email archives or play the part of a highly paid filing clerk, that decides which messages to delete to stay within storage quotas, has passed due to both regulation and business continuity needs.

There are several solutions available on the market today capable of offloading email archives to a centralized storage repository, but several issues should be carefully considered prior to purchase and implementation. It is important to create a checklist that is tailored to meet individual business needs, as some solutions are better than others, each checklist should look for 5 key points:

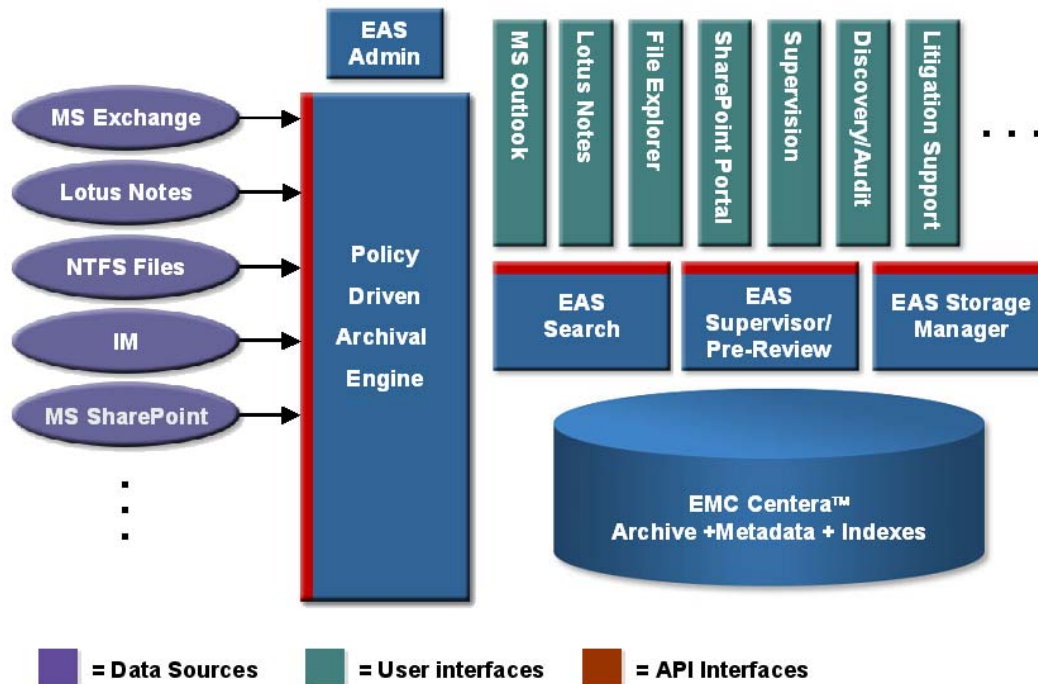
- Will the solution lower your overall administration costs?
- Can one solution slow the storage growth needs of your email system better than another?
- Will the email management and storage solution meet regulatory requirements?
- Is the solution capable of providing solid audit trails to legal teams?

Robust Technology for Global Email Management & Storage Centralization **ZANTAZ Enterprise Archive Solution (EAS)**

Discussion of email management and archive solutions leads many to ponder the build or buy question. If your organization is leaning towards building a solution in house, it is important to remember that among the large organizations that have attempted to build a homegrown solution, the custom built email management systems are rarely able to grow with a business as needs change. In fact, most custom solutions are incapable of providing business users with an intuitive and rapid way to search archived messages and are not able to withstand the rigors of legal discovery processes and regulatory compliance.

The ZANTAZ EAS product family was built with an emphasis on the fact that information retention and discovery management (IRDM) is an important part of business operations regardless of industry, country, or local regulatory mandates. Although it was designed to withstand the rigors of legal discovery and regulatory compliance through the use of tamper resistant audit trails, it also eliminates the perpetual struggle between email administrators working to maintain performance levels of email servers and business users that want to keep every email they send or receive.

ZANTAZ EAS Product Family Integrated with EMC Centera™



Source: ZANTAZ, Inc.

An Advanced Email Management Archive: Parent-Child Architecture

The ZANTAZ EAS email management system incorporates a parent-child architecture that can be centrally managed and locally optimized across an organization with multiple domestic and international branches. Regardless of the number of sites or users in an organization, the parent-child architecture of EAS makes it possible to create one logical archive that spans an entire organization. This permits employees in different regions that are working on the same project to eliminate email constraints and share project mail folders to facilitate collaboration across geographic boundaries.

Benefits are also obtained in the form of storage efficiency due to ZANTAZ EAS single instance storage capabilities. Single instance storage will store only one copy of an email and any file attachments when a message is sent to a large distribution list. Furthermore, the system is capable of telling the difference between different versions of an email attachment. The system uses a hashing algorithm ensuring that version control is maintained and that newer versions never overwrite older ones.

ZANTAZ EAS for Exchange, Notes, IM, and Files

Whether a business uses Microsoft Exchange, Lotus Notes, Instant Messaging, file attachments or all of the above following M&A (merger & acquisition) activity, ZANTAZ EAS is capable of supporting each platform on a single infrastructure. The multi-platform flexibility of EAS

combined with its enterprise wide single instance storage feature and the ability to eliminate mailbox storage quotas has been shown to decrease IT storage infrastructure expenditures while simultaneously decreasing email management costs.

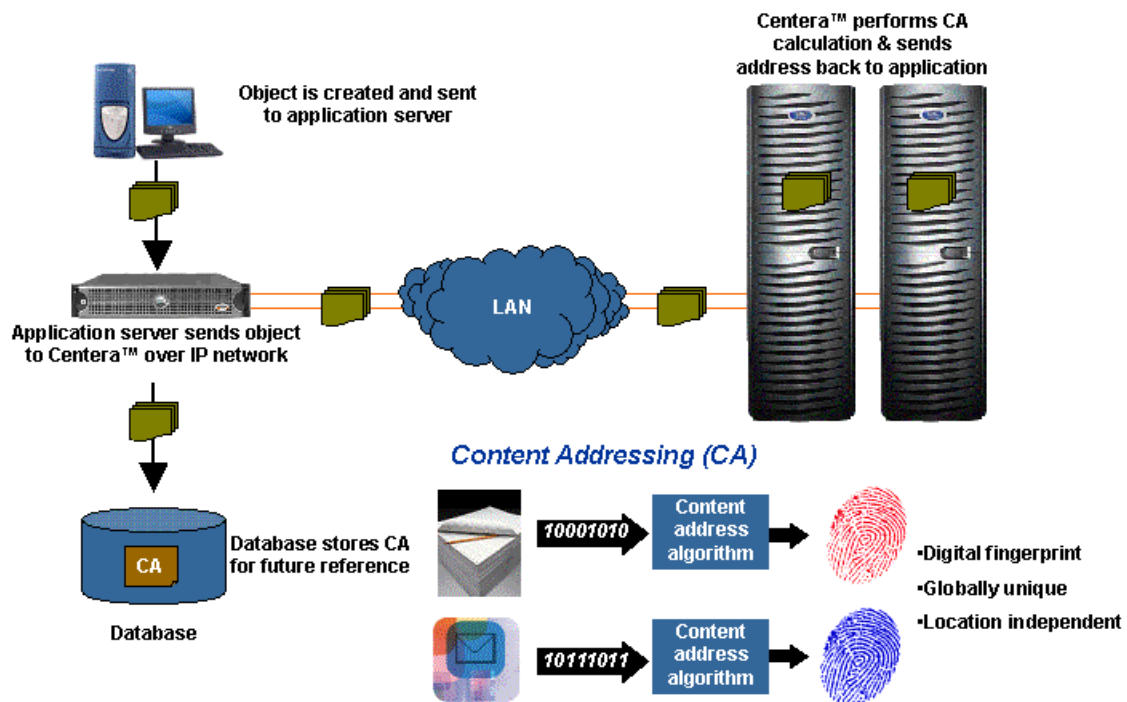
Other benefits of EAS include the ability to establish policies by which emails can be automatically archived to a central repository based upon age, viewing activity, or file size. EAS also provides sophisticated email and file archive search capabilities allowing business users to search emails and file attachments using keywords, phrases, Boolean operators, and wildcards. Searches can span a single repository or multiple repositories with support for more than 30 languages.

EMC Centera™ Content Addressed Storage (CAS) System

As business use of email and instant messaging continues to increase, organizations must face the reality that email is a business critical communication tool. Email is a powerful enabler of business, but poor management can result in seriously negative business continuity issues. When IT departments force users to delete messages or place them in unmanaged local archives susceptible to corruption and data loss unnecessary risks are taken.

Similar to ZANTAZ EAS, EMC Centera™ and its Content Addressed Storage System (CAS) offers its own single instance storage technology that works seamlessly with EAS and addresses stored data based on a Content Address (CA) not the information's physical or logical placement in the storage array. The addressing and encryption functions are similar to a public key infrastructure (PKI) or digital fingerprints. The addressing and encryption ensures, security, authenticity and nonrepudiation, which are vitally important in regulatory environments as well as during a legal discovery process.

How EMC Centera™ and Content Addressed Storage Works



Source: EMC Corporation

For business continuance purposes, Centera™ stores the content and protects it using content parity protection within the same array. In the event that a disk drive or storage node should fail, the Centera™ is capable of healing itself by detecting the fault and generating a new copy of the content objects. As this process takes place, the affected node is isolated from the rest of the system and can be hot swapped by IT staff. Hot swapping without application disruption is seamless because applications don't have knowledge of the physical or logical placement of fixed content within Centera™.

Finally, as IRDM is increasing in importance to North American as well as European based businesses, Centera™ has been designed to enforce application-based retention periods within its microcode. Only authorized Records Managers have the ability to lengthen the retention periods, but they cannot shorten them. Although data retention is important, the information lifecycle management (ILM) process isn't complete without a way to automatically implement data deletion policies immediately after retention periods expire. Centera™ offers IT departments this capability and utilizes U.S. Department of Defense 5015 standards for data deletion. Automating this process to coincide with corporate policy and regulatory requirements frees IT personnel from a low-level maintenance tasks and easily applies a standard data destruction policy organization wide. Consistent policy helps eliminate potential legal liabilities.

Meeting the Needs of Global Business with ZANTAZ EAS and EMC Centera™

Although cultural differences and ways of conducting business differ between North America and Europe, business and government in both regions share a common desire to increase IT efficiency and decrease overall operational costs. A combined ZANTAZ EAS and EMC Centera™ solution offers the public and private sector substantial cost-savings. These savings arise from reduced IT administrative costs, efficient single instance storage capable of significantly slowing annual storage infrastructure expenditures, and robust audit trails for legal discovery processes and government inquiries.

Despite the fact that Europe has approached IRDM from an operational efficiency perspective and North America has adopted IRDM as a result of regulation and litigation, there is no doubt that a combined EAS and Centera™ solution effectively and efficiently meets the needs of business and government bodies regardless of geo-political boundaries.

The combined EAS / Centera™ solution ensures that European data privacy needs are met through the automatic deletion of email and attachments per government data retention policy guidelines. However, this same feature also serves the needs of North American and European business by allowing the implementation of an automatic organization wide data deletion policy following required retention periods. These policies not only free additional storage space for an organization and reduce storage expenditures and IT labor costs, they have the added benefit of preventing possible legal liabilities when data kept beyond required retention periods is captured in a legal discovery process.

Conclusion

ZANTAZ EAS and EMC Centera™ offer the public and private sector an efficient and cost effective managed email and file archive and storage solution for fixed content originating from and accessed by multiple enterprise class email and instant messaging solutions. The ability of the combined EAS / Centera™ solution to provide a cost effective email management and networked storage solution that provides immediate access and sophisticated search functions otherwise unavailable on optical or tape storage solutions makes this an optimal solution for government bodies and multinationals operating across numerous time zones.

Lastly, the EAS / Centera ability to eliminate multiple repositories reduces IT management and maintenance costs and accelerates a positive return on investment (ROI) when used to replace both optical and tape storage systems. In light of continuing pressure to rein in IT infrastructure expenditures, the need to accelerate a positive ROI on new IT infrastructure implementations has become a critical performance benchmark in the public and private sectors. With that in mind, the EAS / Centera™ solution should be given serious consideration due to its ability to positively impact productivity and reduce future IT infrastructure expenditures.