

SPECIAL REPORT

Email Data Management For Regulatory Compliance

Featuring an Independent Review of
OTG's EmailXtender™ Software as a
Comprehensive SEC Rule 17a-4 Solution



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A QUICK GUIDE TO...

**SEC Rule 17–CFR 270.17a-4 Compliance
Using OTG Software’s EmailXtender™**

This table identifies the relevant paragraphs within SEC Rule 17 regarding email communications and tells how EmailXtender™ software can help your organization meet those requirements.

SEC Requirement	Summary SEC Description	EmailXtender Compliance Capabilities
240.17a-4 (f)(2)(ii)(A)	Electronic Storage Media must be “non-rewriteable” and “non-erasable”	Allows storage on “write once read many” (WORM) optical media. Provides controlled access to stored messages
240.17a-4 (f)(2)(ii)(B)	Accuracy of recording process	Provides automatic verification of the accuracy and completeness of stored messages and attachments, ensuring that stored messages are “true” copies of the original message.
240.17a-4 (f)(2)(ii)(C)	Serialize the storage media	Automatically provides sequential and chronological numbering of messages, groups of messages and storage media, including duplicate copies of media. Places a date/time stamp on media to assist in complying with appropriate retention schedule.
240.17a-4 (f)(2)(ii)(D)	Download records and indexes	Provides copies of indexes and stored messages to enable access and viewing by authorized users.
240.17a-4 (f)(3)(i)	Make records available for SEC review	Stored messages are immediately available to authorized users for access and display – both locally and via the web. Exact copies of messages can be reproduced as necessary.
240.17a-4 (f)(3)(ii)	Provide facsimile enlargements	1) Stored records are immediately available. 2) Exact copies can be reproduced for viewing or printing as necessary.
240.17a-4 (f)(3)(iii)	Keep a duplicate copy	Can make a duplicate copy of each message for storage on a duplicate piece of storage media.
240.17a-4 (f)(3)(iv)	Retain an accurate index	Creates a searchable index for all stored email. Indexes are also retained on each unit of storage media for the messages and attachments stored on that unit. Indexes allow searching by a wide variety of criteria, including the full text of the message body and attachments
240.17a-4 (f)(3)(iv)(A)	Keep index available	Indexes and index entries are immediately available to authorized users to enable search and retrieval of the underlying messages and attachments.
240.17a-4 (f)(3)(iv)(B)	Duplicate index	Can make a duplicate copy of each index entry for storage on a duplicate piece of storage media (just as for messages.)
240.17a-4 (f)(3)(iv)(C)	Preserve index for length of the record	Indexes and index entries are retained as long as the underlying messages are retained.
240.17a-4 (f)(3)(v)	Implement audit software for record input	Automatically provides verification of complete and accurate storage of messages, with audit trail of process. Provides audit trail of all activities related to the message, such as access attempts, in a separate database.
240.17a-4 (f)(3)(v)(A)	Audit results available	Authorized users have the ability to access, view and create reports based upon the audit trail records.

Preface to the Report

SEC Background

After the stock market crash of 1929, Congress passed two acts designed to restore investor confidence in the public markets – the Securities Act of 1933 and the Securities Exchange Act of 1934. In 1934, the Securities and Exchange Commission (SEC) was set up to enforce these laws, promote market stability and to protect investors. The SEC continuously updates the rules and regulations outlined in these and other acts, so that the Commission's oversight remains consistent with changes in technology, market size and new products and services.

The Securities and Exchange Act of 1934 includes provisions that require exchange members, brokers and dealers to maintain and preserve records of their business, including transactions, trade confirmations, communications (including interoffice memoranda), and written agreements. With the advent of computer technology, including word processing software, spreadsheet and financial software and email software, as well as hardware devices and media to store electronic information, the SEC has updated these rules to include provisions for storage of records on electronic storage media.

Email, Corporate Communications and Record-Keeping

Email has become a major means of business communication. Ferris Research says that the number of corporate emails increased by 50% over the past year and predicts an increase of 35-50% next year. IDC forecast that the number of emails sent daily will grow from 9.7 billion in 2000 to over 35 billion in 2005. Email has become a standard means of interoffice communication (such as memoranda), as well as communication with customers, suppliers and business partners. The ability to attach documents adds to email's utility as a communication medium, as companies can deliver statements, bills, prospectus information and other types of information using email.

The pervasiveness and utility of email as a communication medium is both a boon and a potential problem for financial companies regulated by the SEC. Email gives exchange members, brokers and dealers a fast and efficient mechanism of communicating internally, with each other, with branch offices and with customers. However, this can lead to potential headaches for compliance officers, as all communications related to the business – including internal communications – must be retained under Rule 17a-4 (17CFR 240.17a-4). Record-keeping deficiencies are among the most common reasons that the SEC Office of Compliance Inspections and Examinations refers cases to the Office of Enforcement or to Self Regulating Organizations (SROs) for investigation (SEC Annual Reports – 1997-1999). In 1999, the

Office of Compliance referred nearly 30% of the 681 inspections it performed to either Enforcement or SROs for further investigation (SEC annual report – 1999).

Email is also becoming a repository of valuable business information. Some estimates indicate that as much as 45% of business critical information is stored within the messaging system (Creative Networks, Inc.). However, much of this information is hidden from the organization as a whole, in individual user mailboxes, desktop archives or backup tapes. Nearly three-quarters of end users are unable to recover an archived email without assistance from the email administrator (Creative Networks, Inc.). In some cases, aged email is simply not recoverable. Results of a recent survey showed that 29% of organizations would not be able to locate an email message that was 6 months old (Creative Networks, Inc.).

Email servers are vulnerable to unplanned downtime, caused in part by overloaded message stores. Recent research indicates that over half of the most serious message-related difficulties faced by IT staff focus on storage issues, including lack of disk space, the size of individual message stores and the sheer volume of message traffic (Creative Networks, Inc.). Email systems are also vulnerable to virus attacks, as over 85% of the viruses that infect organizations enter via the email system (ISCA/TruSecure – 2000 Virus Prevalence Survey).

A Solution for Email Data Management

In order to manage their burgeoning email storage requirements, as well as to maintain access to the corporate knowledge within their email repository, companies in a wide range of industries are turning to an innovative product from OTG Software – EmailXtender™. EmailXtender instantly captures messages and attachments, creating an enterprise Message Center. Archived messages remain fully accessible to end users via full-text search capabilities. EmailXtender can also help organizations recover from virus attacks more quickly, with little or no loss of information. Finally, EmailXtender's superior message storage and management capabilities help reduce email server backup time and eliminate message-size and mailbox-size restrictions.

OTG also recognizes that SEC-regulated organizations have special requirements for retention and disposition of email communications as records. Therefore, we included several features, such as a lifecycle management option, audit trail capabilities and the ability to store messages and attachments on non-rewriteable, non-erasable storage media, including WORM (write once, read many) optical disk, to help financial services organizations meet these challenges.

In order to assure our financial services customers that appropriate use of EmailXtender will help them meet the record keeping requirements of Rule 17a-4 regarding email communications, OTG Software retained Cohasset Associates, noted experts in record management, to perform an evaluation of the product. The following pages provide the complete results of that evaluation.

An Evaluation of

EMAILXTENDERTM

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INTRODUCTION

OTG has developed a software product called EmailXtender to methodically capture, organize, protect, retain, manage and reproduce e-mail messages, move e-mail messages off the active e-mail system to maximize functionality and provide expeditious and effective search and retrieval capability. EmailXtender incorporates features and technological solutions, to provide a secure system for the retention of messages and an electronic archive for the long-term storage of e-mail.

Cohasset Associates, Inc. ("Cohasset") has been retained to provide an Evaluation of OTG's EmailXtender™ ("EX") and specifically its electronic record¹ creation, retention, archiving and retrieval capabilities² to determine if EX complies with the electronic records directives contained in SEC Regulations 17 CFR 240.17a-4 (hereinafter referred to as "17a-4.") OTG wants to determine if EmailXtender addresses brokerage and securities industry regulations and concerns. There are many features of EX that will not be reviewed as part of this evaluation because they go beyond the scope of this Evaluation.³

¹ A Record in the records management context is evidence of a business transaction that has ongoing business, legal or compliance value. E-mail messages can be "records," "non-records" or "transitory."

² According to OTG, EmailXtender was designed to have the functionality of an Electronic Records Management Software Application in compliance with the Department of Defense Regulation 5015.2. However, Cohasset has not been asked to perform an evaluation based upon DOD standards or criteria.

³ For example, EX has an e-mail policy development functionality that allows EX users to create directives and rules for their institution. While it offers benefits and walks an e-mail system administrator through various legal, HR and risk issues, the Email Policy Module is not reviewed in this Evaluation. Further, this Evaluation does not address whether or not a user of EmailXtender, such as a Member/Broker/Dealer, complies with its record keeping obligations pursuant to SEC Regulation 17a-4 simply by using EX.

This Evaluation of EX resulted from a review of the following documents and/or discussions:

- The EmailXtender Implementation Guide, including the E-Policy Module, Search Application, System Installation Component, Web Client Component, Administrator Overview, and other relevant sections of the Implementation Guide dealing with Archiving, Classification, Collection, Life Cycle Management, Encryption, Indexing, Searching, System Auditing, etc.
- Discussions with OTG personnel including employees with knowledge about the design, setup and implementation of the relevant components and functionality of EX.
- Marketing Materials, White Paper entitled, "Make Email a Better Business Tool" and other material related to EX.

This Evaluation is limited in scope and was commissioned for the purpose of determining whether EX would conform to the applicable parts of the SEC regulations governing electronic records and record keeping by managing, storing, capturing, retrieving and reproducing e-mail messages.⁴ EX was not reviewed in a "live" environment and Cohasset has not conducted a "live" review at this time. This Evaluation and analysis are predicated on several assumptions.⁵

⁴ EmailXtender comes as a package of software with various functional modules. There are additional software components that can be purchased to perform certain functions that are not part of the base software product. One example is the Life Cycle Management module. This Evaluation assumes that all records management related components are part of the reviewed software.

⁵ First, this Report assumes that:

- (a) EX will function as described in the documents reviewed and as represented by OTG personnel;
- (b) EX will be configured as described in the documents reviewed and as represented by OTG personnel;
- (c) the reviewed documents describing EX are accurate and complete and adequately describe all facts germane to this analysis;
- (d) to the extent that representations were made by OTG personnel about planned changes and modifications to EX, that these modifications will be carried out as represented;
- (e) EX will function as intended over time;
- (f) OTG personnel will have the ability to program, modify and maintain EX;

SUMMARY OF EVALUATION

EX components involved in record keeping have been evaluated by Cohasset to determine if they comply with SEC Regulation 17a-4, which deals with electronic records and record keeping. Compliance with SEC Regulation 17a-4 is the responsibility of the Member/Broker/Dealer and while EX may assist a Member/Broker/Dealer in their e-mail communications record keeping responsibility, this evaluation does not address whether EmailXtender manages other types of electronic records, such as spreadsheets or ledgers.

It is Cohasset's opinion that EX complies with both the letter and spirit of SEC Regulation 17a-4. EX allows e-mail to be retained on WORM (Write Once-Read Many) optical disk, as well as other storage media, which satisfies the 17a-4 requirement to store electronic records on "non-rewriteable non-erasable" media. Records can be methodically stored in duplicate with adequate indexing and automated review of record capture and storage processes. 17a-4 requires that the Member/Broker/Dealer provide access to records and systems storing records. EX's search and retrieval capabilities promote record accessibility throughout the life cycle of the record. EX recognition of the date of creation and/or date of storage ensures that records can be disposed of in accordance with the applicable retention period.⁶

EX has a number of record control and security features, (including virus, versions, drafts, etc.) which promote record integrity, trustworthiness and authenticity. Further, access

⁶ For purposes of this evaluation, EX has been reviewed on its ability to manage e-mail in accordance with the Section 17 CFR 240.17a-4 (b) which states that "Every such broker and dealer shall preserve for a period of not less than 3 years, the first two years in an accessible place" (4) "Originals of all communications received and copies of all communications sent by such member, broker or dealer (including interoffice memoranda and communications relating to his business as such." EX's ability to manage records whose record type or retention is different from those stated above, or whose total retention period is not known as of the e-mail record creation date or whose retention is event based was not addressed as part of this evaluation.

controls prohibit unauthorized access to and alteration of stored e-mail messages. Access to audit trails and meta-data records is controlled so that even authorized e-mail administrative personnel do not have the ability to alter stored e-mail or meta-data records. E-mail stored using EX can be retained in encrypted form to further bolster record content confidentiality following its capture and retention.

SEC REGULATION 17 CFR 240.17A-4 **RECORDS ISSUES**

The following analysis goes through SEC Regulation 17a-4 and addresses the various issues relevant to OTG's EmailXtender product. Not all issues covered by SEC Regulation 17a-4 are addressed herein and certain clauses that raise issues from various parts of the Regulation may be addressed together.

Electronic Storage Media Must Be “Non-rewriteable” and “Non-erasable”

240.17a-4(f)(2)(ii)(A) indicates that if electronic storage media is utilized for retention of records subject to SEC requirements that the media on which such records are stored must be “non-rewriteable” and “non-erasable.”

EX allows for various types of storage media to be used, including WORM (Write-Once Read-Many) optical disk. Use of WORM optical disk for the storage of relevant electronic records complies with the relevant sections of SEC Regulation 17a-4. Further, use of WORM ensures that once records are stored on the disks, they cannot be altered, changed or deleted without extraordinary effort and technological knowledge about WORM or otherwise doing physical damage to the storage vehicle itself. WORM optical disks are perhaps the most widely used storage media to comply with this section of the SEC Regulation.

Before e-mail messages are “written” to WORM, they are temporarily housed in a “holding bin,” where they are inaccessible and protected from alteration and are subject to an automated audit to verify that the content is, and continues to remain, unaltered. Thereafter, messages are written to a more permanent storage medium, like WORM disk, from the temporary “holding bin.” However, to ensure trustworthiness, authenticity and integrity, after being written to WORM, e-mail messages managed by the product are subject to access controls, which prohibit intentional or unintentional alteration. Drafters and recipients of e-mail messages as well as system administrators are all prohibited from changing the contents and/or meta-data associated with any stored message. All access to the record is recorded in a separate audit trail record.⁷

Accuracy of Recording Process

240.17a-4(f)(2)(ii)(B) requires that the storage media “verify automatically the quality and accuracy of the storage media recording process.”

EX automatically verifies stored e-mail communications for accuracy and completeness at two separate times. First, e-mail messages are checked for accuracy when stored in the temporary “holding bin.” When the message is written to WORM, EX verifies the data comprising each message to ensure that an identical message is retained and that it is a complete and accurate copy.

The verification process can be configured to verify the integrity of the e-mail every time it is written to WORM disk. When the same record is simultaneously written to two

⁷ While it appears that the intent of 17a-4 is addressed by such controls (protecting the original e-mail message from time of capture to the time the messages are written to WORM), a strict interpretation of the rule requiring “non-rewriteable non-erasable media” may not be technically accomplished by policies and audit trails controls when the underlying media may be able to be changed.

separate optical disks (for purposes of backup as required by 17a-4), which EX can be configured to perform, if either or both copies of the records are inaccurate or incomplete, EX will seek to rectify the deficiency in the recording process as well as notify the system administrator of the problem.

In other words, e-mail messages captured by EX are automatically verified for completeness and accuracy when initially stored on WORM optical disk and verified and compared to the original on each subsequent writing to WORM disk.⁸ Specifically, the system automatically verifies the e-mail to ensure that the optically stored record is the same as the original records managed by the system.

Serialize the Storage Media

240.17a-4(f)(2)(ii)(C) "Serialize the original and, if applicable, duplicate units of storage media, and time-date for the required period of retention the information placed on such electronic storage media."

EX can automatically provide sequential and chronological numbering of individual messages, "volumes" (groupings of e-mail messages) and storage vehicles (i.e. disks, tapes, etc.) including the duplicates made of each storage vehicle. The date and time of the e-mail receipt and storage on the optical disks are automatically retained by EX along with other relevant meta-data, which tend to promote the trustworthiness and integrity of the retained e-mail message.

EX can be configured to retain all e-mail messages whose retention period will be completed in 3 years (in conformity with the period of retention for communications pursuant

⁸ EX allows multiple copies of the records to be stored on multiple storage vehicles of various types.

to 17a-4) on the same disk to allow the whole disk to be disposed of when appropriate.⁹

Download Records and Indexes

240.17a-4(f)(2)(ii)(D) "Have the capacity to readily download indexes and records preserved on the electronic storage media..."

EX can provide copies of the stored indexes and/or e-mail messages to enable access to and viewing of the accurately reproduced messages.

Make Records Available for SEC Review

240.17a-4(f)(3)(i) the Member/Broker/Dealer shall "at all times have available, for examination by the staffs of the Commission and self-regulatory organizations of which it is a Member, facilities for immediate, easily readable projection of micrographic media or electronic storage media images and for producing easily readable images."

The Member/Broker/Dealer will be able to access all needed records captured by EX and can also display and copy the records. EX allows exact copies of stored messages to be reproduced in the future by an end-user.

Provide Facsimile Enlargements

240.17a-4(f)(3)(ii) "Be ready at all times to provide, and immediately provide, any facsimile enlargement..."

In most instances, EX should allow the Member/Broker/Dealer to comply with this requirement by allowing nearly instantaneous access to records. However, without knowing precisely what is meant by "enlargements" or if this clause is relevant to the instant situation, it is difficult to assess whether the section is applicable to e-mail records or whether EX would

⁹ As previously discussed, WORM optical disk does not allow for disposition of individual records. This evaluation assumes that all e-mail would be considered "communications" within the meaning of 17a-4 and will need to be retained for 3 years. However, it is possible that certain communications or e-mail messages may need to be retained for different lengths of time. This evaluation does not address whether the software has e-records disposition functionality for any and all types of electronic records.

provide the "facsimile enlargements" contemplated by the regulation.

Keep a Duplicate Copy

240.17a-4(f)(3)(iii) "Store separately from the original, a duplicate copy of the record stored on any medium acceptable under SEC Regulation 17a-4 for the time required."

EmailXtender can be configured to make two (2) complete copies of each e-mail message and store each the copies on two (2) separate optical disks. EX would allow the duplicate WORM disk containing stored messages to be physically moved and retained separately from the other disk thus protecting it for disaster recovery purposes (which appears to be a concern contemplated by the regulation).

Retain an Accurate Index

240.17a-4(f)(3)(iv) "Organize and index accurately all information maintained on both original and duplicate storage media."

EX can create a searchable directory index for each optical disk containing stored e-mail. Each stored message has a corresponding index entry by which the message can be retrieved. Identical and duplicate indexes can be created for each optical disk. The index would provide references to the contents of the disk.

Further, EX's indexing feature allows stored messages to be searched by a number of search criteria and fields, including the message body and attachments. For example, a user can perform a full-text search by sender, recipients, date, subject, contents, etc. This EmailXtender feature allows for contemporaneous searching of multiple storage vehicles and numerous e-mail system users' files. EX's search capability further promotes accessibility and retrievability. For purposes of ensuring record security, e-mail stored on optical disks and the

corresponding indexes will remain secure due to the “non-rewriteable” qualities of the storage medium. Further, an audit trail is retained for each stored message. Additionally, EX allows an authorized system administrator to encrypt entire storage vehicles and their contents, making intentional or accidental review of message substance all but impossible without the “key” to decrypt the message.

EX automatically conducts three (3) separate accuracy verifications of the index directory list: 1. At the time when the e-mail is stored in a “volume” (proprietary name for an information unit); 2. At the time the message is stored on a unit of media; 3. At the time the unit of media is “finalized” (completely filled).

Keep Index Available

240.17a-4(f)(3)(iv)(A) “At all times, a member, broker, dealer must be able to have such indexes available for examination by the staffs of the Commission....”

EX makes the index accessible for as long as the retained messages are accessible. Additionally, contents of each disk will remain searchable by sender, recipient, date, subject, text, etc. for as long as the message or disk is retained.

Duplicate Index

240.17a-4(f)(3)(iv)(B) “Each index must be duplicated and the duplicated copies must be stored separately from the original....”

EX can create a duplicate index for each optical disk, just as it duplicates the messages stored on the disks. Further, EX will allow the duplicate optical disk and the corresponding index to be stored separately from the original to comply with the regulation.

Preserve Index for Length of Record

240.17a-4(f)(3)(iv)(C) "...indexes must be preserved for the time required for the indexed records."

EX allows for the retention of index references to the records for as long as the underlying records need to be preserved.

Implement Audit Software for Record Input

240.17a-4(f)(3)(v) "The Member, Broker, Dealer must have in place an audit system providing for accountability regarding inputting of records required to be maintained and preserved..."

EX captures messages sent or received by the e-mail system on which it is operating. EX automatically verifies each message to ensure that a complete and accurate message has been stored. Once captured and retained by EX, certain subsequent activities related to the message are automatically memorialized in a separate audit record, including access to the email audit record by an authorized e-mail administrator. Certain meta-data and header information is also automatically retained with the message. Audit records are retained in a separate database for the designated retention period of the message. Audit events including, among other things, disk ejection, violations of creation rules established by the user company, etc. are tracked by EX. Any failures during the recording or storing process will recommence the storage (a "read-back" verification is performed on each message) and this will also be documented. Additionally, the system administrator will be notified of any failure during the storage or writing process.

If and when an attempt is made to access, alter or modify any e-mail message, EX will automatically record such occurrences in the audit log. While EX is designed to prohibit alterations to original records (whether authorized or not), attempts to do so will be captured

and documented by EX's audit trail records and retained in a database designed to track activities with respect to a message.

Audit Result Available

240.17a-4(f)(3)(v)(A) "At all times, the Member, Broker, or Dealer must be able to have the results of such audit software available for examination"

EX retains the audit trail contained in the stored meta-data through the life cycle of the relevant message. EX users will be able to provide and produce audit trail records as necessary.

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ABOUT COHASSET ASSOCIATES, INC.

Now in the fourth decade of serving clients throughout the United States, Cohasset Associates, Inc. is recognized as one of the nation's foremost management consulting firms specializing in document-based information management.

The distinguished work and innovative concepts of Cohasset Associates have been recognized with the highest professional awards of the Association for Information and Image Management (AIIM), the Association of Records Managers and Administrators (ARMA) and the Institute of Certified Records Managers (ICRM).

In addition to its management consulting services, Cohasset Associates, Inc. is renowned for its award-winning educational activities. They include publishing the definitive legal research studies, *Legality of Microfilm* and *Legality of Optical Storage*, and their ongoing updating services. Cohasset Associates also presents many seminars and conducts the only national conference dedicated to the subject of *Managing Electronic Records*.



Headquartered in Bethesda, Maryland,
OTG Software is a provider of online storage management and access solutions,
including a comprehensive new email data management solution called
EmailXtender™.

OTG's software enables enterprises to store, track and retrieve data over a
variety of network architectures, including the Web and storage area networks.
Through its application-centric product suite, OTG offers a Web and e-commerce
solution that provides robust functionality across many industries.

OTG empowers storage by combining storage with access and email
management. OTG's products support over 600 storage devices, are easy to
install and use, and can manage storage systems ranging in size from a single
storage device to an enterprise-wide network storage system.

OTG Software's products are used by over 7,600 organizations worldwide and
are available through a network of over 300 VARs, distributors, and OEMs.

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