

# [MS-OXCETF]: Enriched Text Format (ETF) Message Body Conversion Protocol Specification

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## Revision Summary

Date	Revision History	Revision Class	Comments
04/04/2008	0.1		Initial Availability.
06/27/2008	1.0		Initial Release.
08/06/2008	1.01		Revised and edited technical content.
09/03/2008	1.02		Updated references.
12/03/2008	1.03		Revised and edited technical content.
03/04/2009	1.04		Revised and edited technical content.
04/10/2009	2.0		Updated applicable product releases.
07/15/2009	3.0	Major	Revised and edited for technical content.
11/04/2009	3.0.1	Editorial	Revised and edited the technical content.
02/10/2010	3.0.1	None	Version 3.0.1 release
05/05/2010	3.1.0	Minor	Updated the technical content.
08/04/2010	3.2	Minor	Clarified the meaning of the technical content.
11/03/2010	3.3	Minor	Clarified the meaning of the technical content.
03/18/2011	4.0	Major	Significantly changed the technical content.

# Table of Contents

<b>1 Introduction</b>	<b>4</b>
1.1 Glossary	4
1.2 References	4
1.2.1 Normative References	4
1.2.2 Informative References	5
1.3 Overview	5
1.4 Relationship to Other Protocols	5
1.5 Prerequisites/Preconditions	5
1.6 Applicability Statement	5
1.7 Versioning and Capability Negotiation	5
1.8 Vendor-Extensible Fields	5
1.9 Standards Assignments	6
<b>2 Messages</b>	<b>7</b>
2.1 Transport	7
2.2 Message Syntax	7
<b>3 Protocol Details</b>	<b>8</b>
3.1 Common Details	8
3.1.1 Abstract Data Model	8
3.1.2 Timers	8
3.1.3 Initialization	8
3.1.4 Higher-Layer Triggered Events	8
3.1.5 Message Processing Events and Sequencing Rules	8
3.1.6 Timer Events	8
3.1.7 Other Local Events	8
<b>4 Protocol Examples</b>	<b>9</b>
<b>5 Security</b>	<b>10</b>
5.1 Security Considerations for Implementers	10
5.2 Index of Security Parameters	10
<b>6 Appendix A: Product Behavior</b>	<b>11</b>
<b>7 Change Tracking</b>	<b>12</b>
<b>8 Index</b>	<b>14</b>

# 1 Introduction

The Enriched Text Format (ETF) Message Body Conversion Protocol enables a server to process an e-mail message when text/enriched is the content-type of the primary textual portion of the e-mail message. Text/enriched is a **MIME content-type**, as described in [\[RFC1896\]](#). According to [\[RFC2046\]](#), the text/enriched content-type might appear in a **MIME message** as one of its parts.

Sections [1.8](#), [2](#), and [3](#) of this specification are normative and contain RFC 2119 language. Sections 1.5 and 1.9 are also normative but cannot contain RFC 2119 language. All other sections and examples in this specification are informative.

## 1.1 Glossary

The following terms are defined in [\[MS-OXGLOS\]](#):

**E-Mail Text Body**  
**Hypertext Markup Language (HTML)**  
**Internet Message Access Protocol - Version 4 (IMAP4)**  
**Mail User Agent (MUA)**  
**MIME content-type**  
**MIME entity**  
**MIME message**  
**Multipurpose Internet Mail Extensions (MIME)**  
**plain text**  
**Post Office Protocol - Version 3 (POP3)**  
**Rich Text Format (RTF)**

The following terms are specific to this document:

**Enriched Text Format (ETF):** The format of the text section of a MIME entity within a MIME message, if the content-type header is set to "text/enriched", as described in [\[RFC1896\]](#).

**MAY, SHOULD, MUST, SHOULD NOT, MUST NOT:** These terms (in all caps) are used as described in [\[RFC2119\]](#). All statements of optional behavior use either MAY, SHOULD, or SHOULD NOT.

## 1.2 References

### 1.2.1 Normative References

We conduct frequent surveys of the normative references to assure their continued availability. If you have any issue with finding a normative reference, please contact [dochelp@microsoft.com](mailto:dochelp@microsoft.com). We will assist you in finding the relevant information. Please check the archive site, <http://msdn2.microsoft.com/en-us/library/E4BD6494-06AD-4aed-9823-445E921C9624>, as an additional source.

[MS-OXBBODY] Microsoft Corporation, "[Best Body Retrieval Protocol Specification](#)", June 2008.

[MS-OXCMAIL] Microsoft Corporation, "[RFC2822 and MIME to E-Mail Object Conversion Protocol Specification](#)", June 2008.

[RFC1896] Resnick, P., and Walker, A., "The text/enriched MIME Content-type", RFC 1896, February 1996, <http://www.rfc-editor.org/rfc/rfc1896.txt>

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997, <http://www.ietf.org/rfc/rfc2119.txt>

## 1.2.2 Informative References

[MS-OXGLOS] Microsoft Corporation, "[Office Exchange Protocols Master Glossary](#)", April 2008.

[RFC2046] Freed, N., and Borenstein, N., "Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types", RFC 2046, November 1996, <http://ietf.org/rfc/rfc2046.txt>

[RFC2049] Freed, N., and Borenstein, N., "Multipurpose Internet Mail Extensions (MIME) Part Five: Conformance Criteria and Examples", RFC 2049, November 1996, <http://www.rfc-editor.org/rfc/rfc2049.txt>

[RFC3501] Crispin, M., "INTERNET MESSAGE ACCESS PROTOCOL – VERSION 4rev1", RFC 3501, March 2003, <http://www.rfc-editor.org/rfc/rfc3501.txt>

## 1.3 Overview

The server deals with **E-Mail Text Bodies** in two areas: receive handling and automatic generation.

The interaction of the server with an E-Mail Text Body on an inbound message is important because **MIME** defines a mechanism for e-mail messages to be composed with alternative representations of the E-Mail Text Body. Therefore, the server has to be capable of either storing content in its original incoming format(s) or converting content from its original format to a storable format. This protocol does not define how the server is to handle and store the alternative representations of the E-Mail Text Body; that decision is implementation-specific.

## 1.4 Relationship to Other Protocols

The transmission protocols for clients that currently support fidelity restrictions are limited to the **Post Office Protocol - Version 3 (POP3)** and the **Internet Message Access Protocol - Version 4 (IMAP4)**, as described in [\[RFC3501\]](#).

## 1.5 Prerequisites/Preconditions

None.

## 1.6 Applicability Statement

The purpose of **Enriched Text Format (ETF)** as a text format is to offer basic formatting abilities over **plain text** ("text/plain") content. There are **Mail User Agent (MUA)** implementations that support only ETF and plain text, and the server can return either plain text or an ETF interpretation of a richer format.

## 1.7 Versioning and Capability Negotiation

None.

## 1.8 Vendor-Extensible Fields

None.

## 1.9 Standards Assignments

None.

## **2 Messages**

### **2.1 Transport**

Message transport is defined by the MUA transmission protocol.

### **2.2 Message Syntax**

Message syntax is specified in [\[RFC1896\]](#).

## 3 Protocol Details

### 3.1 Common Details

When the server receives Internet mail that has an ETF E-Mail Text Body, the server can preserve this entity in its entirety or convert it to an alternate rendering, such as **HTML**, **RTF**, or plain text.

Note that the Best Body Retrieval Protocol, as specified in [\[MS-OXBBODY\]](#), does not include a property to directly represent ETF, but specifies that a server can provide a representation of the body in one of the client-requested body formats.

For details about how the server handles **MIME entities** with a content-type of text/enriched that are not an alternative rendering of the E-Mail Text Body, see [\[MS-OXCMAIL\]](#).

For outbound e-mail messages, the server can produce/generate the E-Mail Text Body in ETF format.

#### 3.1.1 Abstract Data Model

None.

#### 3.1.2 Timers

None.

#### 3.1.3 Initialization

None.

#### 3.1.4 Higher-Layer Triggered Events

None.

#### 3.1.5 Message Processing Events and Sequencing Rules

None.

#### 3.1.6 Timer Events

None.

#### 3.1.7 Other Local Events

None.



## 4 Protocol Examples

ETF conversion cannot be shown in an example.

For an example of a MIME message that contains a content-type of text/enriched, see [\[RFC2049\]](#).

## **5 Security**

### **5.1 Security Considerations for Implementers**

The presence of malformed tags within an ETF entity does not invalidate that entity.

The server might convert HTML or other E-Mail Text Body formats into ETF to remove the threat of script or social engineering attacks.

### **5.2 Index of Security Parameters**

None.

## 6 Appendix A: Product Behavior

The information in this specification is applicable to the following Microsoft products or supplemental software. References to product versions include released service packs:

- Microsoft® Exchange Server 2003
- Microsoft® Exchange Server 2007
- Microsoft® Exchange Server 2010
- Microsoft® Office Outlook® 2003
- Microsoft® Office Outlook® 2007
- Microsoft® Outlook® 2010

Exceptions, if any, are noted below. If a service pack or Quick Fix Engineering (QFE) number appears with the product version, behavior changed in that service pack or QFE. The new behavior also applies to subsequent service packs of the product unless otherwise specified. If a product edition appears with the product version, behavior is different in that product edition.

Unless otherwise specified, any statement of optional behavior in this specification that is prescribed using the terms SHOULD or SHOULD NOT implies product behavior in accordance with the SHOULD or SHOULD NOT prescription. Unless otherwise specified, the term MAY implies that the product does not follow the prescription.

## 7 Change Tracking

This section identifies changes that were made to the [MS-OXCETF] protocol document between the November 2010 and March 2011 releases. Changes are classified as New, Major, Minor, Editorial, or No change.

The revision class **New** means that a new document is being released.

The revision class **Major** means that the technical content in the document was significantly revised. Major changes affect protocol interoperability or implementation. Examples of major changes are:

- A document revision that incorporates changes to interoperability requirements or functionality.
- An extensive rewrite, addition, or deletion of major portions of content.
- The removal of a document from the documentation set.
- Changes made for template compliance.

The revision class **Minor** means that the meaning of the technical content was clarified. Minor changes do not affect protocol interoperability or implementation. Examples of minor changes are updates to clarify ambiguity at the sentence, paragraph, or table level.

The revision class **Editorial** means that the language and formatting in the technical content was changed. Editorial changes apply to grammatical, formatting, and style issues.

The revision class **No change** means that no new technical or language changes were introduced. The technical content of the document is identical to the last released version, but minor editorial and formatting changes, as well as updates to the header and footer information, and to the revision summary, may have been made.

Major and minor changes can be described further using the following change types:

- New content added.
- Content updated.
- Content removed.
- New product behavior note added.
- Product behavior note updated.
- Product behavior note removed.
- New protocol syntax added.
- Protocol syntax updated.
- Protocol syntax removed.
- New content added due to protocol revision.
- Content updated due to protocol revision.
- Content removed due to protocol revision.
- New protocol syntax added due to protocol revision.

- Protocol syntax updated due to protocol revision.
- Protocol syntax removed due to protocol revision.
- New content added for template compliance.
- Content updated for template compliance.
- Content removed for template compliance.
- Obsolete document removed.

Editorial changes are always classified with the change type **Editorially updated**.

Some important terms used in the change type descriptions are defined as follows:

- **Protocol syntax** refers to data elements (such as packets, structures, enumerations, and methods) as well as interfaces.
- **Protocol revision** refers to changes made to a protocol that affect the bits that are sent over the wire.

The changes made to this document are listed in the following table. For more information, please contact [protocol@microsoft.com](mailto:protocol@microsoft.com).

Section	Tracking number (if applicable) and description	Major change (Y or N)	Change type
<a href="#">1 Introduction</a>	Added information about which sections are normative and which sections are informative.	Y	New content added for template compliance.
<a href="#">1.3 Overview</a>	Changed "specification" to "protocol".	N	Content updated for template compliance.
<a href="#">1.3 Overview</a>	Changed "e-mail" to "e-mail messages".	N	Content updated.
<a href="#">1.4 Relationship to Other Protocols</a>	Added reference to [RFC3501].	N	Content updated.
<a href="#">1.6 Applicability Statement</a>	Changed "simple text" to "plain text".	N	Content updated.

## 8 Index

### A

Abstract data model  
[client](#) 8  
[server](#) 8  
[Applicability](#) 5

### C

[Capability negotiation](#) 5  
[Change tracking](#) 12

#### Client

[abstract data model](#) 8  
[higher-layer triggered events](#) 8  
[initialization](#) 8  
[local events](#) 8  
[message processing](#) 8  
[overview](#) 8  
[sequencing rules](#) 8  
[timer events](#) 8  
[timers](#) 8

### D

Data model - abstract  
[client](#) 8  
[server](#) 8

### E

Examples  
[overview](#) 9

### F

[Fields - vendor-extensible](#) 5

### G

[Glossary](#) 4

### H

Higher-layer triggered events  
[client](#) 8  
[server](#) 8

### I

[Implementer - security considerations](#) 10  
[Index of security parameters](#) 10  
[Informative references](#) 5

#### Intialization

[client](#) 8  
[server](#) 8  
[Introduction](#) 4

### L

Local events  
[client](#) 8  
[server](#) 8

### M

Message processing  
[client](#) 8  
[server](#) 8  
[Message syntax](#) 7  
Messages  
[transport](#) 7

### N

[Normative references](#) 4

### O

[Overview](#) 5

### P

[Parameters - security index](#) 10  
[Preconditions](#) 5  
[Prerequisites](#) 5  
[Product behavior](#) 11  
Proxy  
[overview](#) 8

### R

References  
[informative](#) 5  
[normative](#) 4  
[Relationship to other protocols](#) 5

### S

Security  
[implementer considerations](#) 10  
[parameter index](#) 10  
Sequencing rules  
[client](#) 8  
[server](#) 8  
Server  
[abstract data model](#) 8  
[higher-layer triggered events](#) 8  
[initialization](#) 8  
[local events](#) 8  
[message processing](#) 8  
[overview](#) 8  
[sequencing rules](#) 8  
[timer events](#) 8  
[timers](#) 8  
[Standards assignments](#) 6

### T

Timer events  
[client](#) 8  
[server](#) 8  
Timers  
[client](#) 8  
[server](#) 8  
[Tracking changes](#) 12  
[Transport](#) 7  
Triggered events  
[client](#) 8  
[server](#) 8

## **V**

[Vendor-extensible fields](#) 5  
[Versioning](#) 5