



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

F.435

(06/99)

SERIES F: NON-TELEPHONE TELECOMMUNICATION
SERVICES

Message handling services

**Message handling services: Electronic Data
Interchange messaging service**

ITU-T Recommendation F.435

(Previously CCITT Recommendation)

ITU-T F-SERIES RECOMMENDATIONS
NON-TELEPHONE TELECOMMUNICATION SERVICES

TELEGRAPH SERVICE

Operating methods for the international public telegram service	F.1–F.19
The gentex network	F.20–F.29
Message switching	F.30–F.39
The international telemesssage service	F.40–F.58
The international telex service	F.59–F.89
Statistics and publications on international telegraph services	F.90–F.99
Scheduled and leased communication services	F.100–F.104
Phototelegraph service	F.105–F.109

MOBILE SERVICE

Mobile services and multideestination satellite services	F.110–F.159
--	-------------

TELEMATIC SERVICES

Public facsimile service	F.160–F.199
Teletex service	F.200–F.299
Videotex service	F.300–F.349
General provisions for telematic services	F.350–F.399

MESSAGE HANDLING SERVICES **F.400–F.499**

DIRECTORY SERVICES F.500–F.549

DOCUMENT COMMUNICATION

Document communication	F.550–F.579
Programming communication interfaces	F.580–F.599

DATA TRANSMISSION SERVICES F.600–F.699

AUDIOVISUAL SERVICES F.700–F.799

ISDN SERVICES F.800–F.849

UNIVERSAL PERSONAL TELECOMMUNICATION F.850–F.899

HUMAN FACTORS F.900–F.999

For further details, please refer to ITU-T List of Recommendations.

ITU-T RECOMMENDATION F.435

MESSAGE HANDLING SERVICES: ELECTRONIC DATA INTERCHANGE MESSAGING SERVICE

Summary

This Recommendation is one of a set of Recommendations for message handling. The entire set provides a comprehensive specification for message handling comprising any number of cooperating open-systems.

Message handling systems and services enable users to exchange messages on a store-and-forward basis. A message submitted by one user, the originator, is conveyed by the message transfer system (MTS), the principal component of a larger message handling system (MHS), and is subsequently delivered to one or more additional users, the message's recipients.

An MHS comprises a variety of interconnected functional entities. Message transfer agents (MTAs) cooperate to perform the store-and-forward message transfer function. Message stores (MSs) provide storage for messages and enable their submission, retrieval and management. User agents (UAs) help users access MHS. Access units (AUs) provide links to other communication systems and services of various kinds (e.g. other telematic services, postal services).

This Recommendation defines the overall system and service description of the message handling application called EDI messaging.

This edition introduces new Elements of Services (EOS) to provide the EDI message store with capabilities similar to those of the IPM message store for message store correlation and services.

Source

ITU-T Recommendation F.435 was revised by ITU-T Study Group 7 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on 18 June 1999.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

© ITU 2000

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

CONTENTS

	<i>Page</i>
1 Scope	1
2 Normative references	1
2.1 Identical Recommendations International Standards	1
2.2 Paired Recommendations International Standards equivalent in technical content	1
2.3 Additional references	2
3 Definitions	2
3.1 EDI forwarding	2
3.2 EDI message	2
3.3 EDI messaging user	2
3.4 EDI notification	2
3.5 EDI message responsibility	2
4 Abbreviations	2
5 Conventions	3
6 EDI messaging service	3
6.1 Introduction	3
6.2 EDI messaging	4
6.3 EDI messaging environment	4
6.4 EDI messaging user	4
7 EDI messaging system	4
7.1 Introduction	4
7.2 Information flow in the EDIMS	5
7.3 EDI messaging service functional model	5
7.4 Structure of EDI messages	6
7.5 EDI notification	8
8 EDIM responsibility and forwarding	9
8.1 Introduction	9
8.2 Forwarding and secondary distribution	9
8.3 Case 1: No forwarding	10
8.4 Case 2: Content not changed and EDIM responsibility forwarded	11
8.5 Case 3: EDIM responsibility not forwarded	13
9 EDI naming, addressing and use of directory	13
10 EDI security	14
11 Intercommunication with physical delivery services	15
11.1 Introduction	15
11.2 Delivery and notifications	15
11.3 Transfer of EDIM responsibility	16
11.4 Physical rendition	16
12 Use of message store for EDI	16
13 Elements of service	16
14 Classification of elements of service	16
14.1 Basic EDI messaging service	16
14.2 EDI messaging service optional user facilities	18

	<i>Page</i>
15 Quality of service	21
15.1 EDI message status	21
15.2 Support by providers of EDI service.....	21
15.3 Model of delivery and notification times	21
15.4 EDI message delivery time targets.....	21
15.5 EDI notification time targets.....	22
15.6 Error protection.....	23
15.7 Availability of service.....	23
Annex A – Glossary of Terms	23
A.1 EDI application	23
A.2 EDI interchange	23
A.3 EDI message (EDIM)	23
A.4 EDI message store (EDI-MS)	23
A.5 EDI messaging (EDIMG)	24
A.6 EDI messaging environment (EDIME).....	24
A.7 EDI messaging service.....	24
A.8 EDI messaging system (EDIMS).....	24
A.9 EDI messaging user (EDIMG user).....	24
A.10 EDI notification (EDIN)	24
A.11 EDI message responsibility.....	24
A.12 EDI security	25
A.13 EDI user	25
A.14 EDI user agent (EDI-UA)	25
A.15 Electronic data interchange (EDI).....	25
A.16 GS	25
A.17 IEA.....	25
A.18 Interchange	25
A.19 ISA.....	25
A.20 MHD.....	25
A.21 ST.....	25
A.22 STX.....	26
A.23 UNA.....	26
A.24 UNB.....	26
A.25 UNG.....	26
A.26 UNH.....	26
A.27 UNT	26
A.28 UNZ	26
Annex B – Definitions of Elements of Service.....	26
B.1 application security element [EDI.1]	26
B.2 auto-acknowledgement of EDI messages [EDI.31]	27
B.3 auto-correlation of EDI messages [EDI.32].....	27
B.4 auto-correlation of EDI notifications [EDI.33].....	27
B.5 character set [EDI.2]	27
B.6 cross reference information [EDI.3]	27
B.7 EDI forwarding [EDI.4].....	27
B.8 EDI message type(s) [EDI.5]	27
B.9 EDI notification request [EDI.6].....	27
B.10 EDI standard indication [EDI.7]	28
B.11 EDI message Identification [EDI.8].....	28
B.12 EDIM responsibility forwarding allowed indication [EDI.9]	28
B.13 EDIN receiver [EDI.10].....	28
B.14 expiry date/time indication [EDI.11]	28

	<i>Page</i>
B.15 incomplete copy indication [EDI.12].....	29
B.16 interchange header [EDI.13].....	29
B.17 multi-part body [EDI.14]	29
B.18 non-repudiation of content originated [EDI.15].....	29
B.19 non-repudiation of content received [EDI.16]	29
B.20 non-repudiation of content received request [EDI.17].....	29
B.21 non-repudiation of EDI notification [EDI.18]	29
B.22 non-repudiation of EDI notification request [EDI.19]	30
B.23 obsoleting indication [EDI.20].....	30
B.24 originator indication [EDI.21]	30
B.25 proof of content received [EDI.22].....	30
B.26 proof of content received request [EDI.23].....	30
B.27 proof of EDI notification [EDI.24]	30
B.28 proof of EDI notification request [EDI.25].....	30
B.29 recipient indication [EDI.26]	31
B.30 related message(s) [EDI.27].....	31
B.31 services indication [EDI.28]	31
B.32 stored EDI message auto-forward [EDI.29].....	31
B.33 submission of EDI messages incorporating stored messages [EDI.34]	31
B.34 typed body [EDI.30]	31
Annex C – Security Overview	32
C.1 Introduction.....	32
C.2 Vulnerabilities.....	32
C.3 Vulnerabilities countered	33
C.4 Additional pervasive mechanisms	38
Annex D – EDI naming, addressing, and use of Directory.....	39
D.1 Introduction.....	39
D.2 EDI naming.....	39
D.3 Suggested DIT structure for EDI	39
D.4 Name resolution	40
D.5 Authentication.....	41
D.6 Capabilities assessment.....	42
Annex E – Cross Referencing Overview	43

Downloaded from ITU-T F.435 1999

MESSAGE HANDLING SERVICES: ELECTRONIC DATA INTERCHANGE MESSAGING SERVICE¹

(revised in 1999)

1 Scope

This Recommendation defines the overall system and service of EDI messaging.

Other aspects of message handling systems and services are defined in other Recommendations. The layout of Recommendations defining the message handling system and services is shown in Table 1/F.400/X.400. The public services built on MHS, as well as access to and from the MHS for public services are defined in the F.400-series of Recommendations.

The technical aspects of MHS are defined in the X.400-series of Recommendations. The overall system architecture of MHS is defined in ITU-T Rec. X.402 | ISO/IEC 10021-2. The technical aspects of EDI messaging are defined in ITU-T Rec. X.435 | ISO/IEC 10021-9.

2 Normative references

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

2.1 Identical Recommendations | International Standards

- ITU-T Recommendation X.402 (1999) | ISO/IEC 10021-2:1999, *Information technology – Message Handling Systems (MHS): Overall architecture.*
- ITU-T Recommendation X.413 (1999) | ISO/IEC 10021-5:1999, *Information technology – Message Handling Systems (MHS) – Message store: Abstract service definition.*
- ITU-T Recommendation X.435 (1999) | ISO/IEC 10021-9, *Information technology – Message handling systems: Electronic data interchange messaging system.*
- ITU-T Recommendation X.501 (1997) | ISO/IEC 9594-2:1998, *Information technology – Open Systems Interconnection – The Directory: Models.*
- ITU-T Recommendation X.509 (1997) | ISO/IEC 9594-8:1998, *Information technology – Open Systems Interconnection – The Directory: Authentication framework.*
- ITU-T Recommendation X.521 (1997) | ISO/IEC 9594-7:1998, *Information technology – Open Systems Interconnection – The Directory: Selected object classes.*

2.2 Paired Recommendations | International Standards equivalent in technical content

- ITU-T Recommendation F.400/X.400 (1999), *Message handling system and service overview.*

ISO/IEC 10021-1:…², *Information technology – Message Handling System (MHS) – Part 1: System and Service Overview.*

¹ Recommendation F.435 and ISO/IEC 10021-8, *Information technology – Text Communication – Message Handling Systems: Electronic data interchange messaging system*, are technically aligned.

² To be published.

2.3 Additional references

- CCITT Recommendation F.401 (1992), *Naming and addressing for public message handling services*.
- CCITT Recommendation F.415 (1988), *Intercommunication with public physical delivery services*.

3 Definitions

For the purposes of this Recommendation, the following definitions, and those defined in Annex A apply.

Definitions of the elements of service applicable to EDI messaging are contained in Annex B. The elements of service applicable to the Message Transfer Service, and used by EDI messaging, are called out in this Recommendation, however their definitions are contained in Annex B/F.400/X.400.

3.1 EDI forwarding

Onward transfer of a received EDIM to one or more recipients determined by the forwarding EDI user agent/message store.

EDI forwarding takes place when an EDI message having been delivered to an EDI user agent or EDI message store is forwarded onward to another EDI user agent or EDI message store.

3.2 EDI message

Information in electronic form that is transferred between EDI messaging users. An EDI message is a member of the primary class of information objects conveyed between EDI messaging users.

See also clause 5 of ITU-T Rec. X.435 | ISO/IEC 10021-9.

3.3 EDI messaging user

User that engages in EDI messaging. An EDI messaging user originates, receives, or both originates and receives EDI messages. The EDI messaging environment contains any number of EDI messaging users. An EDI messaging user may be a person or a computer process. An EDI messaging user may access the EDI messaging system through an access unit.

3.4 EDI notification

Member of the secondary class of information objects that indicates to the originator of an EDI message the disposition of EDIM responsibility for the EDI message.

3.5 EDI message responsibility

EDI message responsibility indicates whether the subject EDI message has been made available to a specific user by its EDI user agent/message store. EDI message responsibility carries no legal significance within this Recommendation and ITU-T Rec. X.435 | ISO/IEC 10021-9.

4 Abbreviations

This Recommendation uses the following abbreviations:

ANSI	American National Standards Institute
AU	Access Unit
DIT	Directory Information Tree
DL	Distribution List
DUA	Directory User Agent
EDI	Electronic Data Interchange

EDIFACT	Electronic Data Interchange for Administration, Commerce and Transport
EDIM	EDI Message
EDIME	EDI Messaging Environment
EDIMG	EDI Messaging
EDIMS	EDI Messaging System
EDI-AU	EDI Access Unit
EDI-MS	EDI Message Store
EDI-UA	EDI User Agent
EDIN	EDI Notification
FN	Forwarded Notification
ID	Identifier
MD	Management Domain
MH	Message Handling
MHS	Message Handling System
MS	Message Store
MT	Message Transfer
MTA	Message Transfer Agent
MTS	Message Transfer System
NDN	Non-Delivery Notification
NN	Negative Notification
O/R	Originator/Recipient
PD	Physical Delivery
PDAU	Physical Delivery Access Unit
PDS	Physical Delivery System
PN	Positive Notification
PRMD	Private Management Domain
TLMA	Telematic Agent
UA	User Agent
UNTDI	United Nations, Trade Data Interchange
UTC	Coordinated Universal Time

5 Conventions

In clause 2, ISO/IEC aligned standards are cited.

Common language practices have been applied as far as possible in the use of capitalization of words.

6 EDI messaging service

6.1 Introduction

The EDI messaging service provides an EDI messaging user with features to assist in communicating with other EDI messaging users. EDI messaging users are in many cases computer processes. The EDI messaging service uses the capabilities of the Message transfer service (see also Recommendation F.410) for sending and receiving EDI messages. The elements of service describing the features of the EDI messaging service are defined in Annex B, and classified in clause 14.

EDI, electronic data interchange, can be described as computer to computer exchange of structured business data, such as invoices and purchase orders. In some cases, the EDI messaging service can be used to transmit an EDI interchange to a physical rendition system, such as a physical delivery system, or facsimile.

The EDI messaging service is provided by EDI messaging.

6.2 EDI messaging

EDI Messaging (EDIMG) consists of the exchange of EDI Messages (EDIMs), and EDI Notifications (EDINs), which are information objects specified in ITU-T Rec. X.435 | ISO/IEC 10021-9.

6.3 EDI messaging environment

The environment in which EDI messaging takes place can be modelled as a functional object which is hereafter referred to as the EDI Messaging Environment (EDIME). When refined (i.e. functionally decomposed), the EDIME can be seen to comprise lesser objects referred to as the primary objects of EDI messaging. They include a single central object, the EDI Messaging System (EDIMS), and numerous peripheral objects called EDI Messaging users (EDIMG users).

The structure of the EDIME is depicted in Figure 1.

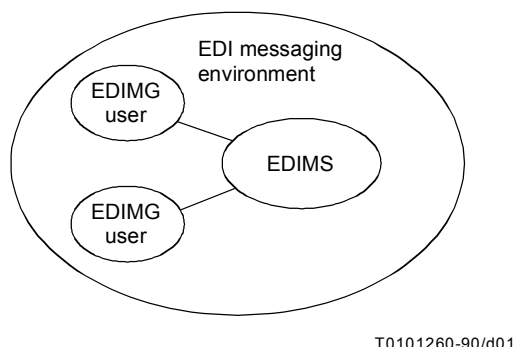


Figure 1/F.435 – EDI messaging environment

6.4 EDI messaging user

An EDI Messaging user (EDIMG user) is a user that engages in EDI messaging. An EDIMG user originates, receives, or both originates and receives EDIMs. The EDIME contains any number of EDIMG users.

An EDIMG user may be a person or a computer process. An EDIMG user may access the EDIMS through an access unit.

7 EDI messaging system

7.1 Introduction

The EDI Messaging System (EDIMS) is the functional object by means of which all EDIMG users communicate with one another in EDI messaging.

The EDIMS can be modelled as comprising lesser functional objects which interact with one another. These lesser objects are referred to as the secondary objects of EDI messaging. They include a single, central object, the message transfer system (MTS), and numerous peripheral objects of three kinds: EDI User Agents (EDI-UAs), EDI Message Stores (EDI-MSs), and EDI Access Units (EDI-AUs).

The structure of the EDIMS is depicted in Figure 2. As shown in Figure 2, EDI-UAs, EDI-MSs, and EDI-AUs are the objects by which the EDIMS provides service to EDIMG users.

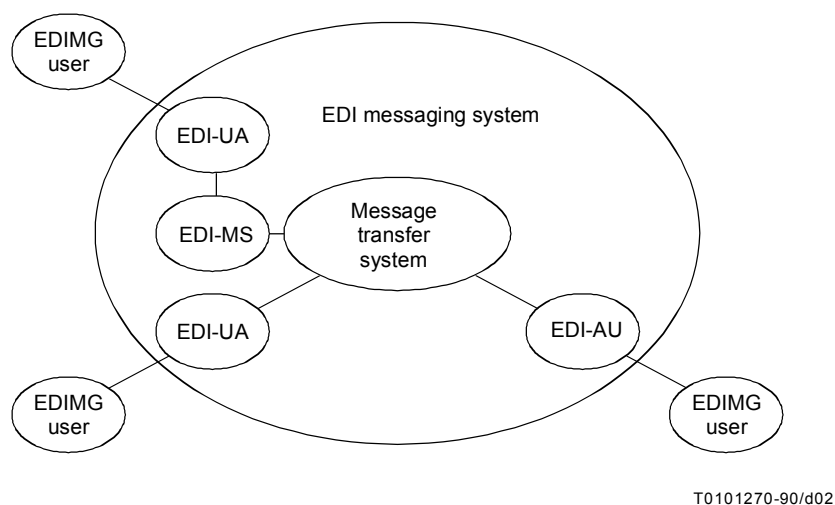


Figure 2/F.435 – EDI messaging system

7.1.1 EDI user agents

An EDI User Agent (EDI-UA) is a user agent tailored so as to better assist a single EDIMG user to engage in EDI messaging. It helps that EDIMG user originate and receive messages containing EDIMs. The EDIMS contains any number of EDI-UAs.

NOTE – An exact definition of the boundary between the EDI-UA and the EDIMG user is beyond the scope of this Recommendation.

7.1.2 EDI message store

An EDI Message Store (EDI-MS) is a message store tailored so as to better assist a single EDI-UA engage in EDI messaging. It helps that EDI-UA submit, take delivery of, store, and retrieve messages containing EDIMs.

7.1.3 Message transfer system

In the present context, the Message Transfer System (MTS) conveys EDIMs or EDI notifications (EDINs) between EDI-UAs, or between an EDI-UA and an access unit. The EDIMS contains a single MTS.

7.1.4 EDI access units

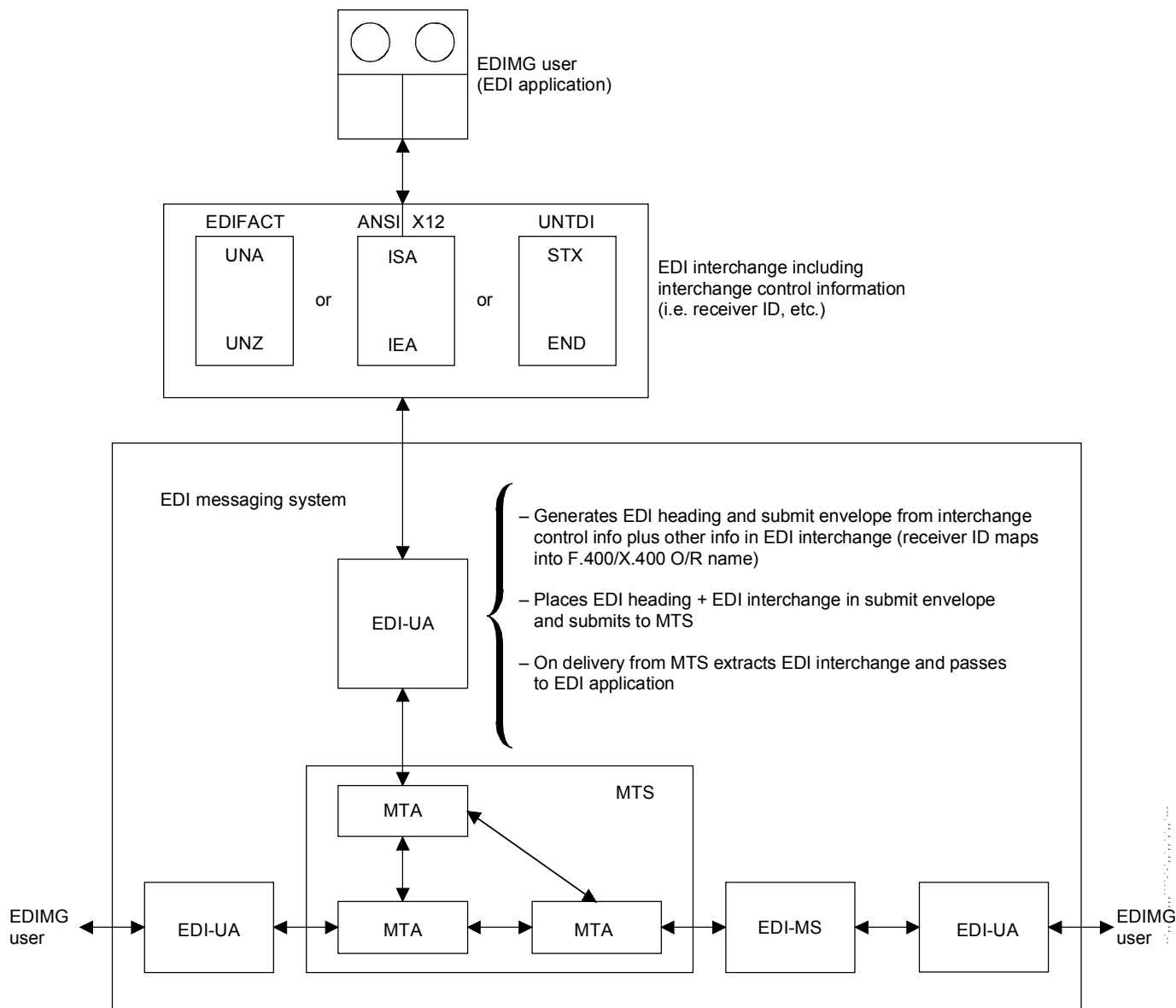
An EDIMG user may have access to/from the EDIMS through an access unit (AU). One type of access unit is the physical delivery access unit (PDAU). In EDIMG, the physical delivery access unit provides the ability to send messages to EDIMG recipients through a physical delivery system (PDS). Other types of EDI-AUs (e.g. facsimile access units) may be the subject of future standardization.

7.2 Information flow in the EDIMS

Figure 3 expands on Figure 2 and shows the principal information flows in EDI messaging.

7.3 EDI messaging service functional model

Figure 4 shows the functional model of the EDI messaging service. The UAs used in the EDI messaging service comprise a specific class of cooperating UAs. The optional PDAU allows EDIMG users to send messages to indirect users outside of the EDI messaging environment. The message stores used in the EDI messaging service have specific EDI related functions and can optionally be used by EDIMG users to take delivery of messages on their behalf. The Telematic Agent (TLMA) shown in Figure 4 will allow access to telematic services and may be the subject of future standardization.



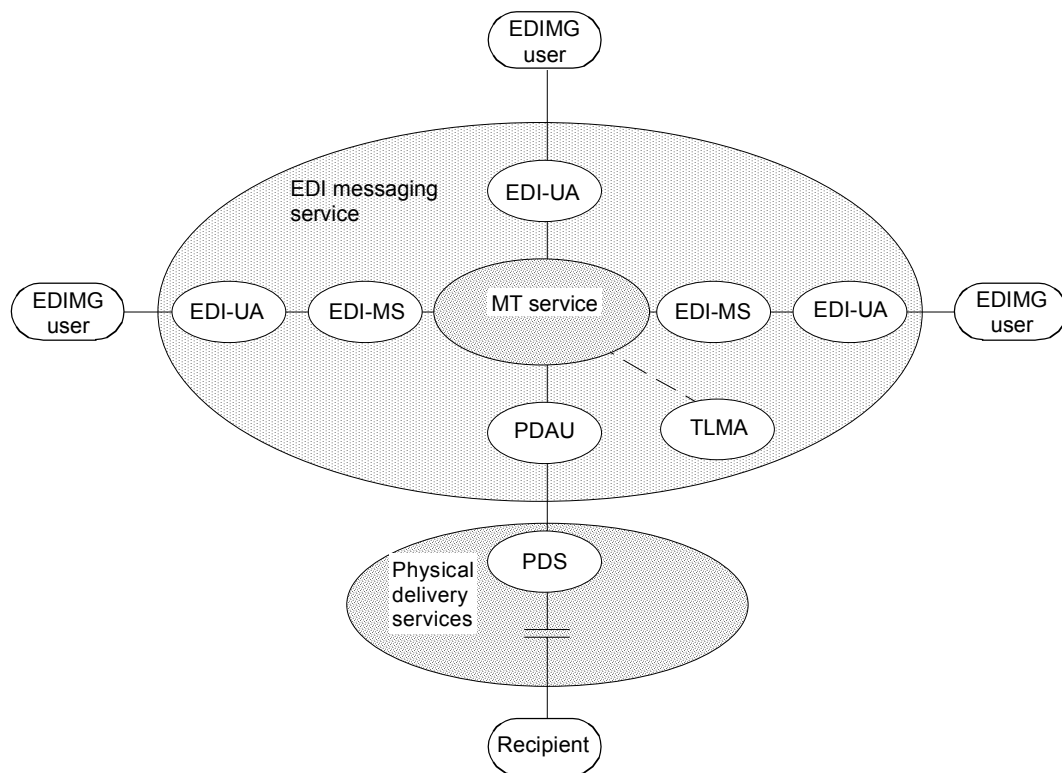
NOTE – For abbreviations and acronyms see clause 4 and Annex A.

T0101280-90/d03

Figure 3/F.435 – Information flow in EDI messaging

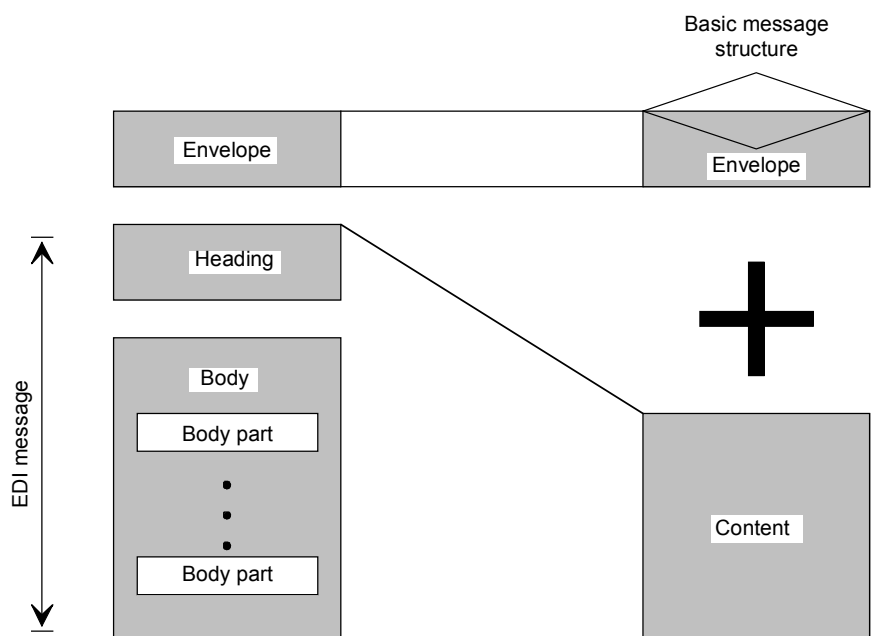
7.4 Structure of EDI messages

The EDI class of UAs create messages containing a content specific to the EDI messaging service. The specific content that is sent from one EDI-UA to another is a result of an originator, which is generally an application process, composing and sending a message, called an EDI Message (EDIM). The EDIM carries the EDI interchange and optionally other information associated with the EDI interchange. Only one EDI interchange shall be present in an EDIM. Every EDIM shall contain an EDI interchange body part on origination of the EDIM. Any of the body parts can subsequently be removed (wholly, not partially) when forwarding an EDIM, except a forwarded body part, which cannot be removed. Body parts that are removed when forwarding are replaced with place holders to indicate what type of body part was removed. The heading of an EDIM shall not be removed when forwarding an EDIM. The structure of an EDIM as it relates to the basic message structure of MHS is shown in Figure 5. The EDIM is conveyed with an envelope when being transferred through the MTS.



T0101290-90/d04

Figure 4/F.435 – EDI messaging service functional model



T0101300-90/d05

Figure 5/F.435 – EDI message structure

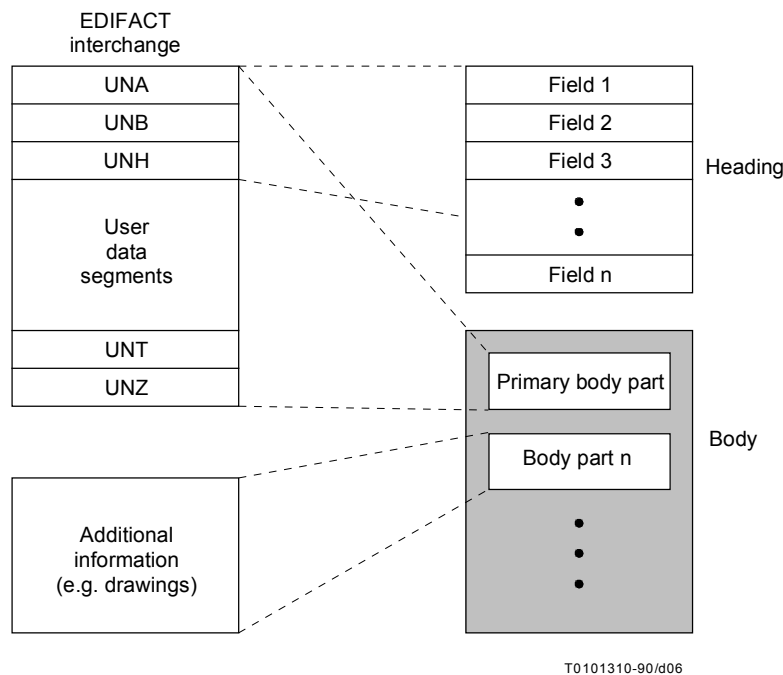


Figure 6/F.435 – EDI message structure for a typical EDI transaction

Figure 6 shows a mapping between a typical EDI interchange, and the corresponding EDI message structure. The EDI interchange is mapped entirely within one body part, called the primary body part, and may be an EDIFACT, ANSI X12, UNTDI or privately defined EDI interchange. Other body parts are available to convey information associated with the EDI interchange such as drawings, explanatory text, etc. The heading of the EDIM contains various fields of information, some of which are present in the EDIFACT interchange header segments (or corresponding ISA or STX segments for ANSI X12 and UNTDI), and others containing service requests from the originator. The heading and body part(s) form the EDIM.

7.5 EDI notification

An EDIMG user can request that a recipient return an EDI Notification (EDIN) indicating the disposition of the EDI message received. This notification is requested by an originating EDI-UA, and is generated by a recipient EDI-UA, EDI-MS, or AU. There are 3 possible conditions that can be requested and reported on, resulting in either the generation of a Positive Notification (PN), a Negative Notification (NN), or a Forwarded Notification (FN). The implied meanings of the responses PN, NN, and FN are described in 8.1. It is possible to forward a received EDI message unchanged and forward the obligation to respond to the notification request to the recipient to whom the EDI message is forwarded, or intermediate recipients, who then shall respond to the original originator of the message. An originating EDI-UA may request to be notified if the obligation to respond to the notification request has been forwarded. In this case, the EDI-UA or EDI-MS that forwards the EDIM shall send to the originating EDI-UA an EDI Forwarded Notification (FN).

In all cases, including notifications sent by EDI-UAs to whom the EDIM has been forwarded, the notifications shall contain the O/R name of the recipient that was specified by the original originator.

The originating EDI-UA may request any combination of the several EDINs from any combination of the recipients to whom the EDIM is sent. If no notifications are requested by an originator, none shall be sent by the recipient(s).

EDI notifications cannot be forwarded, and EDI notifications cannot be requested for EDINs.

8 EDIM responsibility and forwarding

8.1 Introduction

The EDIMS includes a concept called EDIM responsibility. This concept is key to the description below of EDINs and forwarding. In order to simplify the descriptions in the text below, all forwarding is shown as performed by the EDI-UA. It should be noted that the descriptions apply equally to forwarding performed by the EDI-MS.

The purpose for introducing the concept of EDIM responsibility is primarily to provide a method for confirming the passing of messages amongst EDI-UAs. EDIM responsibility may apply to access units in certain cases. The concept of EDIM responsibility is described as follows.

EDIM responsibility indicates that the EDIM is made available to the EDIMG user by the receiving EDI-UA. EDIM responsibility shall always be accepted when the EDI-UA adds or removes body parts when forwarding. An EDIM cannot leave the EDIMS unless EDIM responsibility has been accepted (delivery to a PDAU is a special case as described in 11.3). If requested to do so by the originating EDI-UA, the recipient EDI-UA, and possibly intermediate EDI-UAs (if requested), shall send EDINs to the originating EDI-UA.

When an EDI-UA receives an EDIM it shall, if requested to do so, inform the originating EDI-UA that the recipient EDI-UA has accepted or refused EDIM responsibility by sending an appropriate EDIN. Subclause 8.2 below contains a detailed description of the EDINs that are sent in various scenarios.

If notifications are requested, then when an EDI-UA accepts, refuses, or forwards EDIM responsibility, it shall send an appropriate EDIN to the originator, and if forwarding, it shall create the appropriate heading fields in the forwarded EDIM. The details of these operations are described in ITU-T Rec. X.435 | ISO/IEC 10021-9.

Body parts that are forwarded cannot be changed in any way. If EDIM responsibility is forwarded, the forwarded EDIM cannot be changed in any way. If EDIM responsibility is accepted, body parts may be removed from, or added to the original EDIM when creating the forwarded EDIM. Body parts that are removed when forwarding are replaced with place holders to indicate what type of body part was removed. EDIM responsibility forwarding is limited to only one recipient.

EDIMG includes mechanisms to prevent looping when forwarding.

8.2 Forwarding and secondary distribution

In EDIMG it may be desirable to receive EDI messages at a central EDI user agent, with subsequent forwarding to the final EDI user agents. Such a practice would, for example, enable a large organization to perform centralized functions such as logging, auditing, etc. on all EDI message traffic entering that organization. After performance of these functions the traffic would be distributed to the EDI user agents serving the recipient EDI applications. Similarly, a value added network service provider might operate a similar intermediary stage on behalf of its customers. The following text describes the use of an EDI-UA as such an intermediary stage.

Since an intermediate EDI-UA will generally not be the final EDI-UA, there is a need to provide end-to-end confirmation of EDIM responsibility acceptance for an EDIM within EDIMG. The element of service "EDI notification Request" allows an originator to request from each recipient, positive, negative and forwarded notifications. Together with protocol elements defined in ITU-T Rec. X.435 | ISO/IEC 10021-9, the "EDI notification request" allows intermediate EDI-UAs to indicate, in a forwarded message, whether or not EDIM responsibility has been accepted. These tools allow EDIM responsibility acceptance to be deferred until an EDIM reaches the final EDI-UA, and provide an indication to that EDI-UA that a notification is to be returned to the original originator.

In order to illustrate the use of an EDI-UA as an intermediate stage, three cases are described below. In all cases, an EDIM originates in EDI-UA1 and terminates in EDI-UA3. EDI-UA2 is the intermediate EDI-UA. In cases 1 and 2 it is assumed that the EDIM is forwarded with content unchanged. In all three cases it is assumed that EDI-UA1 has requested notifications.

NOTE – Events described in the following tables are not necessarily performed in the exact sequential order shown in the Table 1.