SLOVENSKI STANDARD
SIST EN 61334-4-32:1997

01-avgust-1997

Distribution automation using distribution line carrier systems - Part 4: Data communication protocols - Section 32: Data link layer - Logical link control (LLC) (IEC 1334-4-32:1996)

Distribution automation using distribution line carrier systems -- Part 4: Data communication protocols -- Section 32: Data link layer - Logical link control (LLC)

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen -- Teil 4: Datenkommunikationsprotokolle -- Hauptabschnitt 32: Sicherungsschicht, Steuerung logischer Verbindungen (LLC)

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs -- Partie 4: Protocoles de communication de données -- Section 32: Couche de liaison de données - Contrôle de liaison logique (LLC)

Ta slovenski standard je istoveten z: **EN 61334-4-32:1996**

ICS:

29.240.20	Daljnovodi	Power transmission and distribution lines
35.100.20	Podatkovni povezovalni sloj	Data link layer

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EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 61334-4-32

December 1996

ICS 35.100.20

Descriptors: Electric power, distribution automation, line carrier systems, data communication protocols, data link layer, logical link control

English version

Distribution automation using distribution line carrier systems
Part 4: Data communication protocols
Section 32: Data link layer - Logical link control (LLC)
(IEC 1334-4-32:1996)

Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs
Partie 4: Protocoles de communication de données
Section 32: Couche de liaison de données - Contrôle de liaison logique (LLC)
(CEI 1334-4-32:1996)

Verteilungsautomatisierung mit Hilfe von Trägersystemen auf Verteilungsleitungen
Teil 4: Datenkommunikationsprotokolle
Hauptabschnitt 32: Sicherungsschicht, Steuerung logischer Verbindungen (LLC)
(IEC 1334-4-32:1996)

This European Standard was approved by CENELEC on 1996-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 57/266/FDIS, future edition 1 of IEC 1334-4-32, prepared by IEC TC 57, Power system control and associated communications, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61334-4-32 on 1996-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-07-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 1334-4-32:1996 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 1334-4-1	1996	Distribution automation using distribution line carrier systems Part 4: Data communication protocols Section 1: Reference model of the communication system	EN 61334-4-1	1996
ISO 7498	1984	Information processing systems Open Systems Interconnection Basic Reference Model	EN 27498	1989

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Automatisation de la distribution à l'aide de systèmes de communication à courants porteurs –

Partie 4: Protocoles de communication de données – Section 32: Couche liaison de données – Contrôle de liaison logique (LLC)

Distribution automation using distribution line carrier systems –

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Bureau central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève Suisse

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FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

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International Standard IEC 1334-4-32 has been prepared by IEC technical committee 57: Power system control and associated communications.

The text of this standard is based on the following documents:

FDIS	Report on voting
57/266/FDIS	57/292/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

DISTRIBUTION AUTOMATION USING DISTRIBUTION LINE CARRIER SYSTEMS –

Part 4: Data communication protocols – Section 32: Data link layer – Logical link control (LLC)

1 General

1.1 *Scope and object*

This section of IEC 1334-4 covers the services required of, or by, the DCP Logical Link Control (LLC) sublayer entity at the logical interfaces with the application layer and the MAC sublayer.

In general, the services of a layer (or a sublayer) are the capabilities which it offers to a user in the next layer. In order to provide its service, a layer (or a sublayer) builds its functions on the services which it requires from the next lower layer or sublayer.

Services are specified by describing the information flow between the application layer and the MAC-sublayer. That is by describing the service primitives and parameters which characterize each service.

These primitives are associated with the connectionless transmission.

NOTES

1 This section refers to the three-layer reference model described in IEC 1334-4-1 but provisions are made for future extensions of this model to more than three layers.

2 Provisions are also made in this section for future extensions to connection oriented transmission.

In this clause, reference is made to the OSI reference model ISO 7498.

1.2 *Normative references*

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 1334-4. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 1334-4 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 1334-4-1:1996, *Distribution automation using distribution line carrier systems – Part 4: Data communication protocols – Section 1: Reference model of the communication system*

ISO 7498: 1984, *Information processing systems – Open Systems Interconnection – Basic Reference Model*

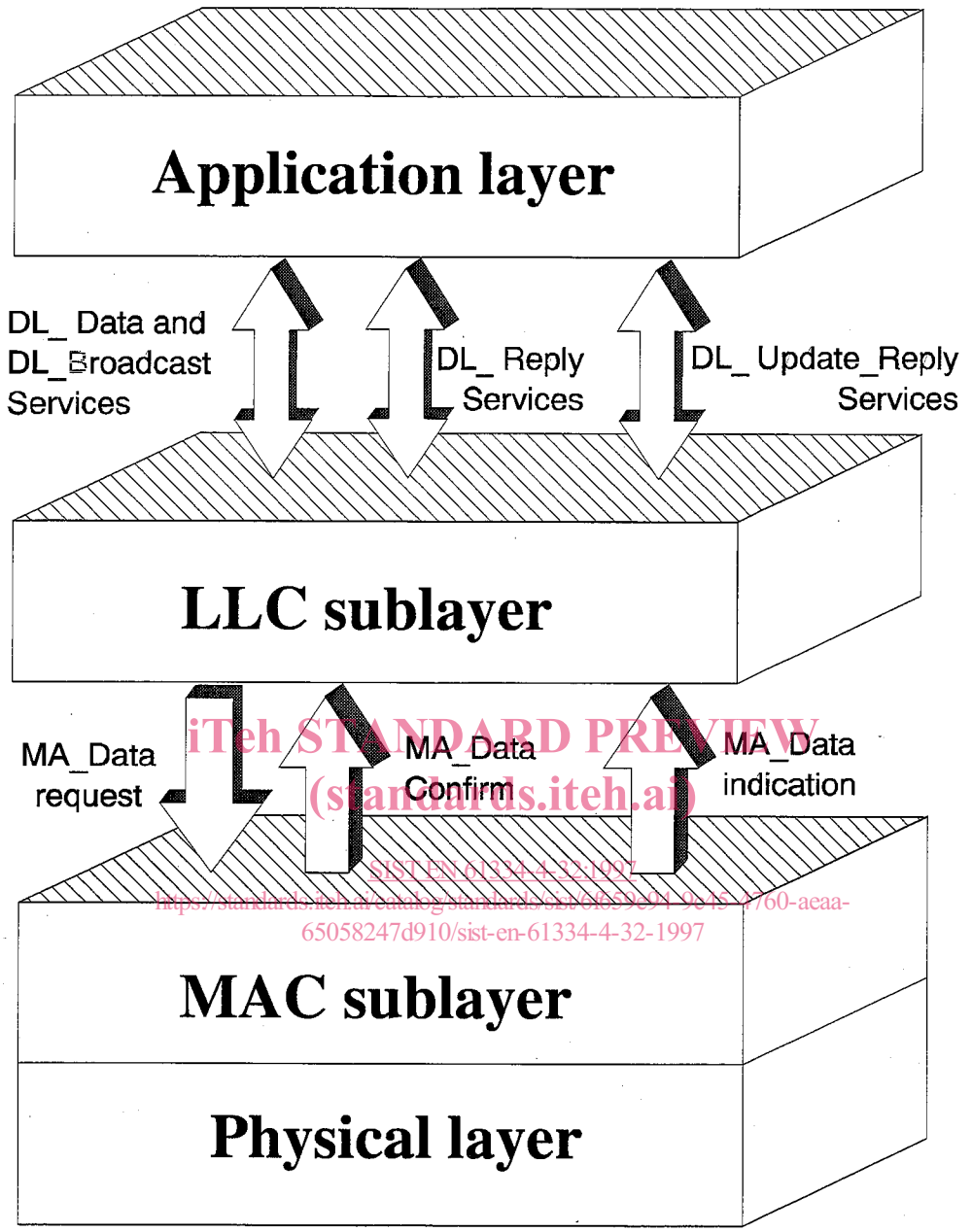

Figure 1 – Relationship to reference model

2 LLC service specification

This clause specifies the services required of the LLC sublayer by the application layer, as viewed from the application layer, to allow a local application layer entity to exchange packets with remote peer application layer entities using DCP LLC operations at the logical link control sublayer. The services are described in an abstract way.

2.1 *Overview of interactions*

2.1.1 *Basic services*

Three ground services are proposed as usual in the OSI model for the main transmission purposes:

- DL_Data.request
- DL_Data.confirm
- DL_Data.indication

These services are non-acknowledged and in connectionless mode.

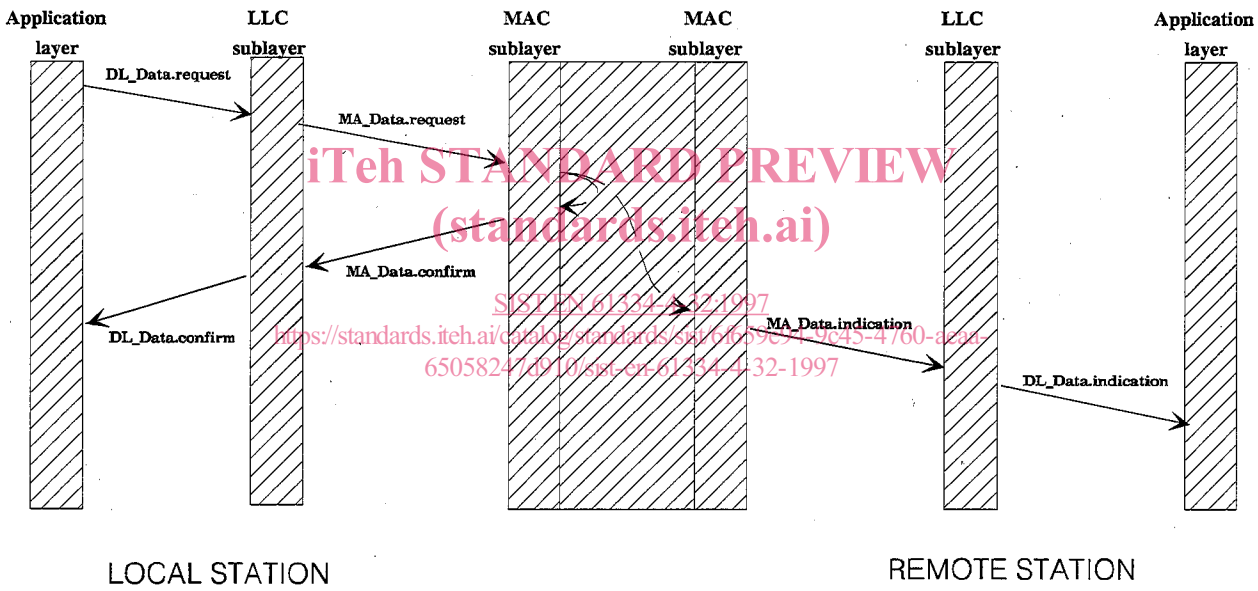

Figure 2 – Send Data Non-acknowledged

2.1.2 *Unsolicited services*

Six services are proposed for providing facilities to transfer unsolicited L_SDU between a remote application layer entity and the local application layer entity:

- DL_Reply.request
- DL_Reply.indication
- DL_Reply.confirm