INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

I.762

(03/2000)

SERIES I: INTEGRATED SERVICES DIGITAL NETWORK

B-ISDN equipment aspects – Multiplexing aspects

ATM over fractional physical links

ITU-T Recommendation I.762

(Formerly CCITT Recommendation)

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ITU-T Recommendation I.762

ATM over fractional physical links

Summary

This ITU-T Recommendation specifies the requirements on how to map ATM on a "circuit-mode connection" supporting unrestricted information transfer rates at integer multiples of 64 kbit/s up to the maximum rate of the interface. The physical interface may typically be DS1 or E1 (or any other physical interface). The specification shall apply for any N * 64 kbit/s rate up to 1920 kbit/s (N = 30) and be independent of type of interface (UNI or NNI).

Source

ITU-T Recommendation I.762 was prepared by ITU-T Study Group 13 (1997-2000) and approved under the WTSC Resolution 1 procedure on 10 March 2000.

Keywords

ATM, Cell mapping, NNI, Physical interface, UNI.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. 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 turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSC Resolution 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.

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As of the date of approval of this Recommendation, 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.

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ITU-T Recommendation I.762

ATM over fractional physical links

1 Scope

This ITU-T Recommendation specifies the requirements on how to map ATM on a "circuit-mode connection" supporting unrestricted information transfer rates at integer multiples of 64 kbit/s up to the maximum rate of the interface (ITU-T Recommendation I.231.10 [1]). The physical interface may typically be DS1 or E1 (or any other physical interface). The specification shall apply for any N * 64 kbit/s rate up to 1920 kbit/s (N = 30) and be independent of type of interface (UNI or NNI).

Figure 1 shows the physical layer functionality of ATM when mapped on a circuit bearer.

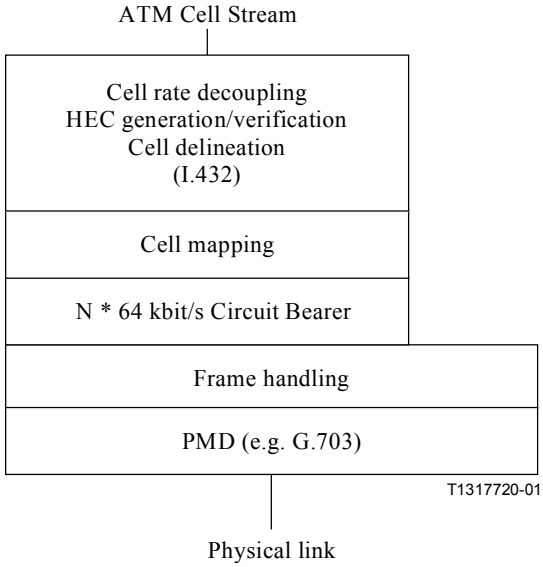

Figure 1/I.762 – Physical layer functions for transfer rates at integer multiples of 64 kbit/s

Observe that the mechanism for how to map ATM on a circuit bearer is not different from the general mechanism described in earlier specifications, e.g. in af-phy-0064.000, "E1 Physical Interface Specification" [2] and in ITU-T Recommendation G.804, "ATM Cell Mapping into Plesiochronous Digital Hierarchy" [4].

2 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.

[1] CCITT Recommendation I.231.10 (1992), *Circuit-mode Multiple-rate Unrestricted 8 kHz Structured Bearer Service Category*.

[2] ATM Forum af-phy-0064.000 (1996), *E1 Physical Interface Specification*.

[3] ITU-T Recommendation G.703 (1998), *Physical/electrical characteristics of hierarchical digital interfaces*.

[4] ITU-T Recommendation G.804 (1998), *ATM Cell Mapping into Plesiochronous Digital Hierarchy (PDH)*.

[5] ITU-T Recommendation I.432.1 (1999), *B-ISDN user-network interface – Physical layer specification: General characteristics*.

[6] ATM Forum af-phy-0130.000 (1999), *ATM on Fractional E1/T1*.

3 Abbreviations

This ITU-T Recommendation uses the following abbreviations:

HEC Header Error Control

ISDN Integrated Services Digital Network

NNI Network-Node Interface

UNI User Network Interface

4 Detailed requirements

The detailed requirements on how to map ATM on a fractional physical link shall be in accordance with ATM Forum Document af-phy-0130.000, "*ATM on Fractional E1/T1*", September 1999 [6].

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Geneva, 2001