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**SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS**

**Public data networks – Transmission, signalling and
switching**

**SERIES Y: GLOBAL INFORMATION INFRASTRUCTURE
AND INTERNET PROTOCOL ASPECTS**

Internet protocol aspects – Transport

IP over SDH using LAPS

ITU-T Recommendation X.85/Y.1321

(Formerly CCITT Recommendation)

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ITU-T Recommendation X.85/Y.1321

IP over SDH using LAPS

Summary

This Recommendation provides a simple HDLC specification named LAPS to adapt IP directly to SDH. The Service Access Point Identifier (SAPI) is introduced to encapsulate IPv4, IPv6, PPP and other upper layer protocols. The LAPS is fully compatible with RFC 2615 when the Address field is set to "11111111" and the data link is set to operate as the way RFC 2615 defines.

Source

ITU-T Recommendation X.85/Y.1321 was revised by ITU-T Study Group 7 (2001-2004) and approved under the WTSA Resolution 1 procedure on 15 March 2001.

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.

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The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA 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

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Introduction

Currently IPv4 is transported largely over telecommunications facilities or channels to support IP protocols and to provide IP-related applications. One of the best channels is SDH. SDH and related WDM (Wavelength Division Multiplex) optical transport network are considered to be the foundation for the physical layer of the broadband IP and B-ISDN. SDH had been deployed all over the world in recent years.

How to fully make use of these existing huge broadband resources effectively to provide Internet data communication services? How to combine IP-based network with SDH to establish the lower cost and high-speed based protocol model? This Recommendation provides LAPS (a type of HDLC) to adapt directly IP to SDH. The model of IP directly over SDH is particularly well suited for existing IPv4 and forthcoming IPv6 Internet engineering applications.

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