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Information processing systems — Data communications — Use of the X.25 packet level protocol in local area networks

*Systèmes de traitement de l'information — Communication de données — Emploi
du protocole X.25 au niveau paquet dans des réseaux locaux*



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) together form a system for worldwide standardization as a whole. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for approval before their acceptance as International Standards. They are approved in accordance with procedures requiring at least 75 % approval by the national bodies voting.

International Standard ISO/IEC 8881 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

Introduction

ISO 8802 specifies the Medium Access Control (MAC) and Logical Link Control (LLC) procedures for accessing a Local Area Network (LAN). This International Standard specifies the use of the X.25 Packet Level Protocol (PLP) (both X.25/PLP:1980 and X.25/PLP:1984), as specified in ISO 8208, to provide additional capabilities beyond those available using the MAC and LLC procedures. These additional capabilities include the ability to support the OSI Connection-mode Network Service in a LAN station, as specified in ISO 8878, and the ability to attach terminals to a LAN station acting as a Packet Assembly/Disassembly Facility (see, for example, CCITT Recommendations X.3, X.28, and X.29).

The X.25 PLP provides several functional capabilities that include, but are not limited to

- a) multiplexing — the ability to support multiple data streams;
- b) transfer of addressing information — the ability to transfer addressing information, including OSI Network Service Access Point addresses;
- c) segmenting and reassembly — the ability to divide a data unit into smaller packets for transfer over a LAN and to reassemble packets into the original data unit;
- d) flow control — the ability to control, for each data stream, the flow of data between transmitting and receiving Data Terminal Equipment (DTE);
- e) transfer of expedited data — the ability to transfer a small amount of data outside the normal flow-control procedures;
- f) error control — the ability to detect errors at the Packet Level; and
- g) reset and restart — the ability to reinitialize communication paths at the Packet Level in the event that non-recoverable error conditions are encountered.

When using the X.25 PLP within a LAN, the X.25 PLP operates in the point-to-point (DTE-to-DTE) mode without an intervening packet-switched network. The LAN station operates one Packet Level Entity for each DTE/DTE interface (i.e., for each station with which it communicates).

ISO/IEC/TR 10029 describes the operation of an interworking unit to connect an X.25 Packet Level Entity in a LAN station to another X.25 Packet Level Entity.