The drawaing contained in this Recommendation have been done in Autocad

Recommendation T.300

GENERAL PRINCIPLES OF TELEMATIC INTERWORKING

The establishment in various countries of telematic services, computer—based store—and—forward message services and other services creates a need to produce standards to facilitate international message exchange between subscribers to such services.

The CCITT,

considering

(a) the need to transfer messages of different types having a large varietry of formats;

(b) that within the X Series of Recommendations services and optional user facilities for public data networks are defined;

(c) that the F Series of Recommendations defines telematic services and that the T Series of Recommendations defines terminal equipment and control procedures for telematic services;

(d) that a set of Recommendations describes various aspects of message handling systems: X.400 Series,

unanimously declares

that this Recommendation describes the general principles for telematic interworking.

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0 Introduction

This Recommendation is the first in a series of Recommendations dealing with telematic interworking.

Telematic interworking is the generic name for a set of applications provided to telematic users. Each of these applications is called a telematic interworking application (TIA), and involves a subset of the following:

— allowing efficient interchange of information between telematic terminals which cannot interact directly;

— providing additional features to standardized telematic services, such as document storage and multiaddressing;

— providing access to or participation in CCITT defined services such as telex, interpersonnal messaging, directory services, etc.

Two TIAs are defined in the present set of Recommendations, namely:

— participation of telematic users in the IPM service;

— teletex to telex interworking.

Other TIAs are for further study.

Some TIAs may be defined to be operated on a standalone basis, e.g. teletex to telex interworking.

1 Scope and field of application

This Recommendation defines the general principles for telematic interworking. It defines the principles of the telematic access protocols as the protocols used by the telematic terminal to participate in telematic interworking applications.

This Recommendation makes use of the concepts defined for message handling. The architectural basis and foundation for message handling is defined in the X.400 Series of Recommendations.

The other Recommendations in the T.300 Series define the telematic interworking applications and the protocols used by telematic terminals to make these applications available to their users. Only the protocols dealing with the telematic access to CCITT—defined services are being considered.

2 References

This Recommendation cites the documents listed below:

— Rec. T.330: Telematic access to interpersonal messaging system

— Rec. X.400: Message handling systems: System and service overview

— Rec. X.402: Message handling systems: Overall architecture

— Rec. X.420: Message handling systems: Interpersonal messaging system.

3 Definitions

This Recommendation makes use of terms defined in Recommendations X.400, X.402 and X.420.

4 Symbols and abbreviations

AU Access unit

C Conditional/consumer

CF Conversion facility

IPM Interpersonal messaging

IPMS Interpersonal messaging system

IPM—UA Interpersonal messaging user agent

M Multiple

MS Message store

MTA Message transfer agent

MTS Message transfer system

PDS Physical delivery system

PTTXAU Public teletex access unit

TIA Telematic interworking application

TIAS Telematic interworking abstract service

TIU Telematic interworking unit

TLM Telematic

TLMA Telematic agent

TLMAU Telematic access unit

TLM—TER Telematic terminal

TTX Teletex

UA User agent

5 Conventions

This Recommendation makes use of no specific convention.

6 Telematic interworking model

6.1 *Overview*

The telematic interworking model serves as a tool to aid in the development of Recommendations on telematic interworking. It depicts different interworking scenarios, and the use of the message handling model for telematic interworking.

The model is applicable in two cases, the first one involving the MTS, the second one not involving the MTS. The model provides only a functional description and does not mandate any specific implementation or interfaces.

6.2 *Telematic interworking involving the MTS*

Figure 1/T.300 depicts the telematic interworking model when the MTS is involved.

It allows:

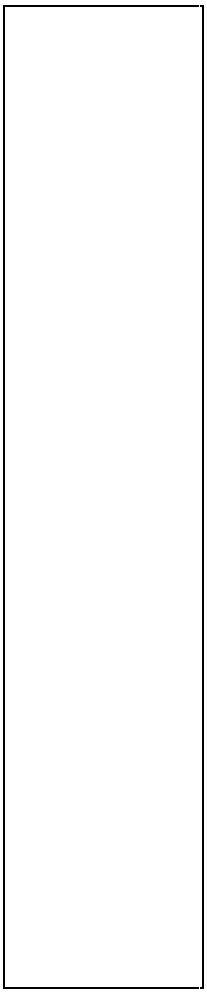
a) telematic to telematic interworking, through the use of the MTS for relaying the telematic information;

b) participation of a telematic user in the IPM service (telematic to IPM—UA interworking through the MTS);

c) participation of a telematic user in any other CCITT—defined application in the field of message handling (telematic to other UA interworking);

d) telematic to other CCITT—defined services interworking through the MTS and the appropriate access units.

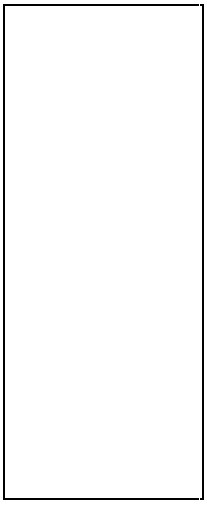
Fig. 1/T.300/T0801060-87 = 13 cm



6.3 *Telematic interworking not involving the MTS*

Figure 2/T.300 depicts the telematic interworking model when the MTS is not involved.

Fig. 2/T.300/T0801071-89 = 7 cm



In this case, TLMAUs and AUs are the same as in § 6.2. The TIU may provide the appropriate subset of the MTS service that will enable information to be conveyed between TLMAUs, or between TLMAUs and AUs. The TIU performs, when necessary, the relevant conversion and dispatching functions.

6.4 *Physical configurations — Definition of the telematic interworking facility (TIF)*

A telematic interworking facility (TIF) is a real system incorporating a valid combination of functional units within telematic interworking. The present clause defines the valid combinations.

6.4.1 *TIF involving the MTS*

In the case of telematic interworking involving the MTS, valid combinations of functional units are depicted in Table 1/T.300.

TABLE 1/T.300

Physical confirgurations of a TIF involving the MTS

	Functional units						
	TLMAU	MTA	MS	UA	TLX AU	PDAU	Ot
TIF	M	1	[M]	[M]	[M]	[1]	

M Multiple

[ ] Optional

MS Message store

Two rules apply to define a TIF in this case:

— At least one TLMAU is present.

— TLMAUs are necessarily co—resident with the MTA they are in relation with.

The definition of other entities present in a TIF (UAs, MSs, TLXAUs, PDAUs, other AUs) and their relations with the MTA is outside the scope of the T.300 Series of Recommendations.

6.4.2 *TIF not involving the MTS*

This case corresponds to a stand—alone TIF, that is a real—system interacting with telematic terminals, and optionally with other CCITT—defined systems (e.g. telex system), but not with MHS nor with other TIFs.

The valid combinations of functional units are depicted in Table 2/T.300.

TABLE 2/T.300

Physical configurations of a TIF not involving the MTS

	Functic
	TLMAU	TIU
TIF	M	1

M Multiple

[ ] Optional

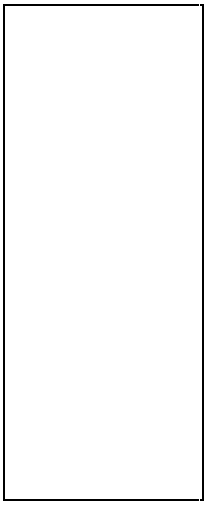
7 The telematic interworking system

Every TIA is provided to the user by a system called telematic interworking system (TIS). This clause provides an abstract model of the TIS.

7.1 *Definition of the TISs*

The TIS and associated users are modelled as objects, as depicted in Figure 3/T.300.

Fig. 3/T.300/T0803950-89 = 7 cm



A user and the TIS are paired through the use of one or more ports. At each of these ports, one or more abstract operations are made available to the user. The collection of these abstract operations will define the abstract—service (called telematic interworking abstract service — TIAS) provided by the TIS.

All ports and operations are application—dependent, and thus are described in appropriate (application—specific) Recommendations.

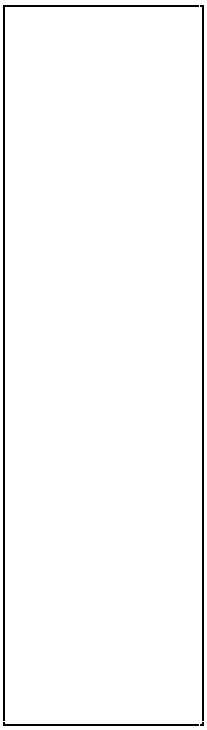
One application of TIS that is defined is the IPMS. IPM—ports and operations are described in Recommendations X.420 and T.330.

The refinement of the TISs leads to two cases, the first one involving the MTS, the second one not involving the MTS.

7.2 *TIS involving the MTS*

The TIS may be refined according to Figure 4/T.300.

Fig. 4/T.300/T0803960-89 = 10 cm



The refinement or the TIS exposes the following component objects:

— The MTS, as defined in Recommendations X.402 and X.411.

— The TLMA, providing the user of a telematic terminal with the telematic interworking abstract service (TIAS).

— The UA, which provide TIAS to users not using a telematic terminal. One application is the IPM—UA, in Recommendation X.420.

— The AUs, which allow intercommunication with other CCITT—defined services. An example of such an AU is the PDAU, defined in the X.400 Series of Recommendations.

The description of UAs and AUs is outside the scope of the T.300 Series of Recommendations.

The ports and operations between the MTS and the other objects listed above are defined in the X.400 Series of Recommendations.

7.3 *TIS not involving the MTS*

This case is for further study.

8 Refinement of the TLMA principles of telematic access protocols

The refinement of a TLMA exposes two component objects: the telematic terminal (TLM) and the telematic access unit (TLMAU).

A TLM is functional object corresponding to a terminal as defined in the relevant T Series of Recommendations.

The TLMAU is defined in Recommendation T.330 in the case of telematic access to IPMS.

The TLM and TLMAU are linked together through one or more port and a set of operations describing them.

Ports and operations are application—dependent and thus are described in appropriate (application—specific) Recommendations.

The realization of these operations involves some transfer of information between the TLM and the TLMAU. It is called a telematic access protocol (see Figure 5/T.300).

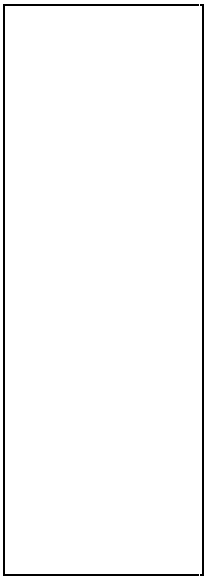



Fig. 5/T.300/T0803970-89 = 8 cm