



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

F.581

(03/93)

**OPERATIONS AND QUALITY OF SERVICE
DIRECTORY SERVICES**

**GUIDELINES FOR PROGRAMMING
COMMUNICATION INTERFACES (PCIs)
DEFINITION: SERVICE RECOMMENDATION**

ITU-T Recommendation F.581

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The 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, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation F.581 was prepared by the ITU-T Study Group I (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

© ITU 1993

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

CONTENTS

		<i>Page</i>
1	Introduction.....	1
2	Scope.....	2
2.1	General.....	2
2.2	Applicability	2
3	Possible benefits of the PCIs.....	2
3.1	For implementors.....	2
3.2	For users	3
3.3	For carriers.....	3
4	PCIs requirements	3
4.1	Independence	3
4.2	Dependency	3
4.3	Flexibility.....	3
4.4	Extensibility.....	3
4.5	Multiple applications	3
4.6	Easy implementation and testing	4
5	General guidelines for defining PCIs	4
5.1	Location of the interface.....	4
5.2	Functional description	4
5.3	Formal description	4
5.4	Presentation of the information.....	4
6	General functional model.....	4
7	Application related interfaces.....	5
7.1	Definitions	5
7.2	General features	5
8	Network/Protocol related interfaces.....	6
8.1	Definition	6
8.2	General features	6
	Annex A – Definitions	6
	Appendix I – Examples	7
	I.1 Telefax 3 on PSTN	7
	I.2 ISDN Lower Layer Module.....	8

Recommendation F.581

GUIDELINES FOR PROGRAMMING COMMUNICATION INTERFACES (PCIs) DEFINITION: SERVICE RECOMMENDATION

(Helsinki, 1993)

1 Introduction

1.1 Today, telecommunication needs in the microcomputer world are quickly increasing.

ITU-T services are defined to meet these needs, but due to the technical and commercial context of the microcomputer world some concrete problems may arise.

a) *Technical aspects*

In some implementations communication equipment may be composed of hardware and software modules which come from various manufacturers. These modules must exchange information to provide the user with access to ITU-T services, but manufacturers may use different working methods and vocabularies.

Therefore, adding new software and hardware to existing configurations involves very detailed knowledge of different areas: telecommunication aspects, computer aspects, hardware and software aspects.

Setting up such equipment requires the help of experts, whereas using ITU-T services only requires a very basic knowledge of the technical aspects.

The consequence of such a situation is often a lack of integration of the communication dialogue with the local software dialogue.

b) *Commercial aspects*

Using hardware and software modules without standardized interfaces may mean buying software and hardware pieces designed to fit together well.

The definition of a public universal interface for a specific communication application (such as facsimile, Teletex, telex, etc.) gives to the user more freedom in the choice of the products.

Most of these difficulties regarding softwares may be solved by the standardization of public inter-application interfaces.

1.2 Interfaces allowing access to software providing a ITU-T communication service are called PCIs for "Programming Communication Interfaces*".

Two levels of PCIs are defined:

- a) Application related interfaces which allow any local Application* (LA) to access any Communication Application* (CA). One example of an application related interface is the APPLI/COM, which is described in Recommendation T.611.
- b) Network/Protocol related interfaces, which allow any LA or Communication Management Entity* (CME) to access any Lower Layer Module* (LLM). Network/Protocol related interfaces are under study.

NOTE – The definition of new terms indicated with (*) may be found in Annex A.

Examples are shown in Appendix I.

1.3 The information to be exchanged through the interfaces and the way to exchange them is subject to the PCIs technical Recommendations.

The exchange method describes the procedures that are performed to convey the information between software modules on each side of the interfaces.