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ISO/IEC JTC 1/SGFS
Title: ISO/IEC JTC 1 Special Group on Functional Standardization

Secretariat: NNI (Netherlands)

Title : EWOS Liaison to ISO/IEC JTC1/SGFS: Update to SGFS N100, Directory of ISPs and profiles

Source : EWOS

Status : Approved by EWOS/TA, April 6-10, 1992

For discussion during the SGFS Plenary Meeting June 15-19, 1992, Washington DC, USA

Note :

532

EWOS/TA/92/051

European Workshop for Open Systems

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From : EG LL

To : EWOS/TA

Date : 1992-02-08

Status : For TA approval; submitted as a result of joint EWOS/EG LL, AOW/WAN SIG, OIW LL SIG, ETSI STC TE.7 meeting (3-7 February 1992)

**Liaison to ISO/IEC JTC-1/SGFS :**

**Update to SGFS N 100, Directory of ISPs and profiles**

**To:** Peter Bessems, JTC1/SGFS Secretariat

**From:** Magnus Stallknecht, EWOS/EGLL

**Date:** February 8, 1992

**Subject:** Update to SGFS N 100, Directory of ISPs and profiles

**Status:** This contribution was approved for submission to SGFS during the joint meeting of the Regional Workshops (AOW/WAN SIG, EWOS/EGLL and OIW LLSIG) in Brussels on February 3-7, 1992, to progress ISDN based profiles.

Dear Mr. Bessems,

Attached please find proposed revisions to SGFS N 100 profile status tables and associated profile summary descriptions. This contribution reflects the current plans of the Regional Workshops to develop ISDN based ISPs.

Proposed revisions to table 3 (Page 7) of ISO/IEC JTC-1/SGFS N100 are attached.

| Profile Identifier | Profile Title | Org. to submit pDISP | Schedule | Profile summary in Annex # | Proposed ISP Id. |
|---|---|---|---|---|---|
| Tx1131 (x=C,D) | ISDN COTS over CONS over PSDN - Permanent Access to PSDN - ISDN B-Channel, semi-permanent virtual call | EWOS | | | 10609 |
| Tx1231 (x=C,D) | ISDN COTS over CONS over PSDN - Switched Access to a PSDN - ISDN B-Channel case - virtual call | EWOS | | | 10609 |
| Tx4111 (x=C,D) | ISDN COTS over CONS over ISDN Semi-permanent service - B-Channel - X.25 DTE to DTE operation | EWOS | | | 10609 |
| Tx4211 (x=C,D) | ISDN COTS over CONS over ISDN circuit - mode service - B-Channel X.25 DTE to DTE operation | EWOS | | | 10609 |

| Profile Identifier | Profile Title | Org. to submit pDISP | Schedule | Profile summary in Annex # | Proposed ISP Id. |
|---|---|---|---|---|---|
| Tx43111 (x=C,D) | ISDN Packet mode service, D-Channel, VC, without Q.931 | AOW | | | 10609 |
| Tx43112 (x=C,D) | ISDN Packet mode service, D-Channel, VC, with Q.931 | AOW | | | 10609 |
| Tx43211 (x=C,D) | ISDN Packet mode service B-Channel, semi-permanent access, without Q.931 | AOW | | | 10609 |
| Tx43212 (x=C,D) | ISDN Packet mode service, B-Channel, semi-permanent access, with Q.931 | AOW | | | 10609 |
| Tx4331 (x=C,D) | ISDN Packet mode service, B-Channel, demand access | AOW | | | 10609 |

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|---|---|
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ISO/IEC JTC 1/SGFS
Title: ISO/IEC JTC 1 Special Group on Functional Standardization

Secretariat: NNI (Netherlands)

Title : Information Technology - Framework and Taxonomy of International Standardized Profiles - Directory of ISPs and Profiles contained therein

Source : Editor - Directory: ISO/IEC JTC 1 Special Group on Functional Standardization, Working Group on Taxonomy

Project :

Status : According to resolution 8 of the Copenhagen meeting JTC 1/SGFS, this Directory will be published on a regular basis as an JTC 1/SGFS N-numbered document.

This is the 3rd revision of the document.

# DIRECTORY OF ISPs AND PROFILES CONTAINED THEREIN

CONTENTS

## 1 Scope

This document accompanies the Technical Report ISO/IEC/TR/10000. It provides additional information about ISPs and Profiles. It includes

- Status information about each Profile identified in the Taxonomy (Technical Report ISO/IEC/TR 10000-2)
- summary descriptions of existing or proposed Profiles
- Information about the possible joint use of A/B-and F-Profiles.

Because of the nature of the information provided, the "Directory of ISPs and Profiles contained therein "may serve as a guidebook for users of Profiles, namely product planners, developers and procurers.

The status information may be used for planning purposes: JTC 1/SGFS may use it in planning its task to review PDISPs. Others may use it to determine the expected schedule for the availability of a particular Profile specification. Also, information is provided as to in which ISP a particular Profile is documented. Hence, it serves as an index to ratified ISPs.

The summary descriptions of Profiles may be used by those who are interested to get an overview of available Profiles.

The information about possible joint use of A-/B-Profiles and F-Profiles is offered to users of Profiles in their process of planning or procuring real systems.

This directory is a factual record of such information as provided by Profile originators. It is subject to updating by the Secretariat of the JTC 1 Special Group on Functional Standardization, following the corresponding rules of JTC 1/SGFS.

## 2 References

ISO/IEC/TR 10000-1: 1990, Information Technology - Framework and Taxonomy of International Standardized Profiles
Part 1: Taxonomy Framework
(to be published)

ISO/IEC/TR 10000-2: 1990, Information Technology - Framework and Taxonomy of International Standardized Profiles.
Part 2: Taxonomy of Profiles
(to be published)

## 3 Abbreviations

### 3.1 General abbreviations

| | |
|---|---|
| CL | Connectionless-mode |
| CL-NS | Connectionless-mode Network Service |
| CL-TS | Connectionless-mode Transport Service |
| CO | Connection-mode |
| CO-NS | Connection-mode Network Service |
| CO-TS | Connection-mode Transport Service |
| CSDN | Circuit Switched Data Network |
| CSMA/CD | Carrier Sense, Multiple Access/Collision Detection |
| DAP | Directory Access Protocol |
| DSA | Directory Service Agent |
| DSP | Directory Service Protocol |
| DUA | Directory User Agent |
| FDDI | Fibre Distributed Data Interface |
| ISDN | Integrated Services Digital Netwo... |
| ISP | International Standardized Profile |
| LAN | Local Area Network |
| MAC | Media Access Control |
| MTA | Message Transfer Agent |
| MS | Message Store |
| MTS | Message Transfer System |
| PDISP | Proposed Draft ISP |
| PSDN | Packet Switched Data Network |
| PSTN | Public Switched Telefonic Network |
| PVC | Permanent Virtual Circuit |
| QoS | Quality of Service |
| SGFS | JTC 1/Special Group on Functional Standardization |
| UA | User Agent |
| VC | Virtual Call |

### 3.2 Abbreviations used in Profile Identifiers

| | |
|---|---|
| ADI | Profile sub-class: Directory |
| AFT | Profile sub-class: File Transfer, Access and Management |
| AMH | Profile sub-class: Message Handling |
| AOM | Profile sub-class: OSI Management |
| ARD | Profile sub-class: Remote Database Access |
| ATP | Profile sub-class: Transaction Processing |
| AVT | Profile sub-class: Virtual Terminal |
| FCG | Profile sub-class: Computer Graphics Metafile Interchange Format |
| FDI | Profile sub-class: Directory Data Definitions |

FOD Profile sub-class: Office Document Format

FSG Profile sub-class: SGML Interchange format

## 4 Profile summary descriptions

For each Profile identified and in existence (either ratified or proposed), a summary description of its scope, scenario and model has to be provided by the originator. Such summary descriptions will be attached to this document as annexes as they are received from the respective originators. The Profile status tables in clause 6 will identify for each profile the number of the annex in which the summary description can be found.

## 5 Information about the possible joint use of A/B-and F-Profiles

ISO/IEC/TR 10000-1 identifies in its clause 7.3.2 potential constraints imposed by A/B- and F-Profiles and/or respective base standards about the possible joint use of A/B- and F-Profiles. In order to assist users of Profiles in their process of planning or procuring real systems, this clause will contain information provided by originators of Profiles, with regard to such constraints. It should, however, be noted that further constraints with regard to the combination of A-/B- and F-Profiles may exist in real products, as a result of practical implementation of such Profiles.

The information contained in this clause will be taken from existing or proposed ISPs, and will be updated by the Secretariat of the Special Group. Hence, the quality and completeness of material in this clause is dependent on submissions from Profile originators. No liability whatever can therefore be assumed by the Secretariat.

## 6 Profile status information

Tables 1 to 4 show information about the status of Profiles and where they are documented in ISPs. The information in this clause will be updated by the Secretariat of the JTC 1 Special Group on Functional Standardization, following the rules of JTC 1/SGFS.

The following status designators are used:

R Need for Profile positively recognized by authorized body.

C Originating organization has submitted statement of intent to contribute the PDISP containing the Profile.

S Profile submitted as (part of) PDISP, review or ballot in progress.

A Profile approved as (part of) ISP and published.

Table 1 - Profile status information: Status A

| Profile Identifier | Profile Title (short) | "Maintenance organization" | Profile summary description available in Annex # | ISP and part number |
|---|---|---|---|---|
| | Specification of ACSE, Presentation and Session Protocols for the use by FTAM (AFTnn) | SPAG | - | 10607-1 |
| | Definition of Document Types, Constraint Sets and Syntaxes (AFTnn) | SPAG | - | 10607-2<br>10607-2/AD1 |
| AFT11 | Simple File Transfer | SPAG | 1 | 10607-3 |
| AFT12 | Positional File Transfer | EWOS | 5 | 10607-4 * |
| AFT22 | Positional File Access | EWOS | 6 | 10607-5 * |
| AFT3 | File Management | EWOS | 7 | 10607-6 * |
| | General overview and Subnetwork-independent requirements for Group TA | COS | - | 10608-1 * |
| TA51 | CO-TS over CL-NS in LAN with CSMA/CD | COS | 3 | 10608-2 * |
| | Subnetwork-type independent requirements for Group TB | POSI | - | 10609-1 * |
| | Subnetwork-type independent requirements for Group TC | POSI | - | 10609-2 * |
| | Subnetwork-type independent requirements for Group TD | POSI | - | 10609-3 * |
| | Subnetwork-type independent requirements for Group TE | POSI | - | 10609-4 * |
| TB1111 | CO-TS over CO-NS in PSDN; permanent access via PSTN leased line; VC: Transport Protocol classes: 0 + 2 + 4 | POSI | 4 | 10609-5 * |
| TB1121 | CO-TS over CO-NS in PSDN; permanent access via digital data circuit or CSDN leased line; VC: Transport Protocol classes: 0 + 2 + 4 | POSI | 4 | 10609-5 * |
| TC1111 | CO-TS over CO-NS in PSDN; permanent access via PSTN leased line; VC: Transport Protocol classes: 0 + 2 | POSI | 4 | 10609-6 * |
| TC1121 | CO-TS over CO-NS in PSDN; permanent access via digital data circuit or CSDN leased line; VC: Transport Protocol classes: 0 + 2 | POSI | 4 | 10609-6 * |

* = approved but not yet published.

Table 1 (concluded) - Profile status information: Status A

| Profile Identifier | Profile Title (short) | "Maintenance organization" | Profile summary description available in Annex # | ISP and part number |
|---|---|---|---|---|
| TD1111 | CO-TS over CO-NS in PSDN; permanent access via PSTN leased line; VC: Transport Protocol class: 0 | POSI | 4 | 10609-7 * |
| TD1121 | CO-TS over CO-NS in PSDN; permanent access via digital data circuit or CSDN leased line; VC: Transport Protocol classes: 0 | POSI | 4 | 10609-7 * |
| TE1111 | CO-TS over CO-NS in PSDN; permanent access via PSTN leased line; VC: Transport Protocol class: 2 | POSI | 4 | 10609-8 * |
| TE1121 | CO-TS over CO-NS in PSDN; permanent access via digital data circuit or CSDN leased line; VC: Transport Protocol classes: 2 | POSI | 4 | 10609-8 * |
| | Subnetwork-type dependent requirements for Network Layer, Data Link Layer and Physical Layer concerning permanent access to a packet switched data network using virtual call (TB/TC/TD/TEnnnn) | POSI | - | 10609-9 * |

* = approved but not yet published.

Table 2 - Profile status information: Status S

| Profile Identifier | Profile Title (short) | Organization having submitted the PDISP | Schedule for review(R) or ballot (B) if known | Profile summary description available in Annex # | ISP Identifier |
|---|---|---|---|---|---|
| TA1111 | CO-TS over CL-NS in PSDN, permanent access | COS | Ballot disapproved | 2 | 10608-5 |
| FOD11 | Simple document structure - character content only | AOW | review finished | | 10610 |
| FOD26 | Enhanced document structure - Character, raster graphics and geometric graphics content architecture | EWOS | review finished | | 11181 |
| FOD36 | Extended document structure - Character, raster graphics and geometric graphics content architecture | NOIW | review finished | | 11182 |
| | Management Communications Protocols - Specification of ACSE, Presentation and Session Protocols for the use by ROSE and CMISE (AOMnn) | EWOS | under Review | - | 11183-1 |
| AOM12 | Management Communications Protocols - Enhanced Management Communications | EWOS | under Review | 8 | 11183-2 |

Table 3 - Profile status information: Status C

| Profile Identifier | Profile Title (short) | Organization committed to submit PDISP | Schedule | Profile summary description available in Annex # | Proposed ISP Identifier |
|---|---|---|---|---|---|
| TA52 | CO-TS over CL-NS in LAN with Token Bus | NOIW | to be defined | | 10608-3 |
| TA53 | COTS class 4, CLNS, LLC1, Token Ring LAN | NOIW | late 1991 | 9 | 10608-4 |
| AMH11 | Common MHS Facilities: MTA and MTS | EWOS | early 1991 | | 10611 |
| AMH12 | Common MHS Facilities: MTA MS (P7) | EWOS | early 1991 | | 10611 |
| RD51.51 | Relaying the MAC service - CSMA/CD to CSMA/CD | EWOS | early 1991 | | 10612 |
| RD51.53 | Relaying the MAC service - CSMA/CD to Token Ring | EWOS | early 1991 | | 10612 |
| TA4ox | CO-TS over CL-NS in ISDN | NOIW | to be defined | | 10613 |
| Tx1231 (x=B,C, D, E) | ISDN access to PSDN - B - channel case - VC | EWOS | early 1991 | | 10614 |
| TX4111 (x= B,C, D,E) | ISDN Semi-permanent service- B-channel - X.25 DTE to DTE operation | EWOS | early 1991 | | 10614 |
| Tx4311 (x=B,C, D,E) | ISDN Packet mode service - D-channel access - VC | AOW | early 1991 | | 10614 |
| Tx4321 (x=B,C, D,E) | ISDN Packet mode service - B-channel semi-permanent access - VC | AOW | early 1991 | | 10614 |
| Tx4331 (x=B,C, D,E) | ISDN Packet mode service - B-channel demand access - VC | AOW | early 1991 | | 10614 |
| ADIx | Directory | SPAG | | | 10615 |
| FDIx | Directory Data Definitions | SPAG | | | 10615 |
| AVT 22 | Basic class, S-mode, Forms | EWOS | | | |
| RA51.1111 | Relaying the CLNS - CSMA/CD to PSDN (VC, PSTN leased line perm. access) | EWOS | mid 1991 | 12 | |
| RA51.1121 | Relaying the CLNS - CSMA/CD to PSDN (VC, CSDN leased line perm. access) | EWOS | mid 1991 | 12 | |
| RA51.51 | Relaying the CLNS - CSMA/CD to CSMA/CD | EWOS | mid 1991 | 13 | |
| RC51.1111 | Relaying the X.25 PLP - CSMA/CD to PSDN (VC, PSTN leased line perm. access) | EWOS | early 1991 | 14 | |
| RC51.1121 | Relaying the X.25 PLP - CSMA/CD to PSDN (VC, CSDN leased line perm.access | EWOS | early 1991 | 14 | |
| RD51.51 | Relaying the MAC service - CSMA/CD to CSMA/CD) | EWOS | late 1991 | 15 | |

Table 3 (concluded) - Profile status information: Status C

| Profile Identifier | Profile Title (short) | Organization committed to submit PDISP | Schedule | Profile summary description available in Annex # | Proposed ISP Identifier |
|---|---|---|---|---|---|
| TC51 | COTS classes 0 and 2, CONS, LLC2, CSMA/CD LAN | EWOS | early 1991 | 10 | |
| TC53 | COTS classes 0 and 2, CONS, LLC2, Token Ring LAN | EWOS | early 1991 | 11 | |
| AOM11 | Management Communications Protocols - Basic Management Communications | EWOS | mid 1991 | | 11183-3 |

Table 4 - Profile status information: Status R

| Profile Identifier(s) | Profile Title (short) | Organization(s) recognizing need |
|---|---|---|
| AMH21 | IPMS: P2 over P1 | SPAG |
| AMH22 | IPMS: MS Access (P2 over P7) | SPAG |
| TB2x, TC2x, TD2x | CSDN, leased and dial-up service | SPAG |
| TB3x, TC3x, TD3x | PSTN, leased and dial-up service | SPAG |
| TB51 | CO-TS over CO-NS in CSMA/CD LAN: TP Classes 0 + 2 + 4 | SPAG |
| TD51 | CO-TS over CO-NS in CSMA/CD LAN: TP Class 0 only | BSI |
| TB53, | CO-TS over CO-NS in Token Ring LAN: TP classes 0 + 2 + 4; | SPAG |

Informative Annexes,

containing Profile summary

descriptions

as provided by the Profile originators

Source : AOW/EWOS

Subject : ISDN ISP Profiles : Summary Overview

Date : 1992-02-06

Attached are profile overview sheets for ISDN ISPs. To be reviewed for inclusion in TR 10000.

ISDN - Packet-mode service - D-channel access VC without use of Q.931 (COTS over CONS)

Profile TC43111, TD43111

Profiles TC43111 and TD43111 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Packet Mode Bearer Service (D-channel). The end systems communicate through a single ISDN (D-channel) Virtual Call (without use of Q.931).

These profiles are specified in a multi-part ISP.
Part 2 and 3 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles.
Part 24 and 28 specify the ISDN common requirements for Groups TC and TD profiles.
Part 34 of this ISP defines profile TC43111 and Part 44 of this ISP defines profile TD43111.

Figure 1 illustrates the end system configuration to which profiles TC43111 and TD43111 apply:

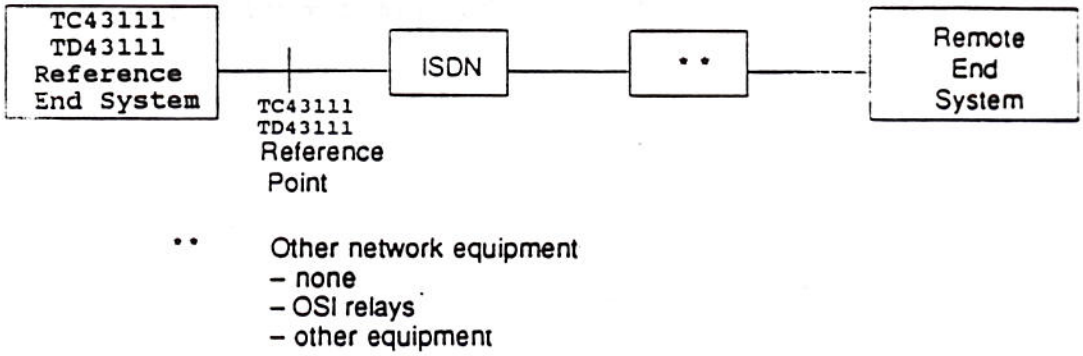



**Figure 1** Scenario of applicability of profiles TC43111 and TD43111

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end systems.

These profiles specify the required functions from the supporting protocol stack shown below in Figure 2, at the reference point S/T:

| | |
|---|---|
| Transport Layer | ISO/IEC 8073 |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 |
| | ISO/IEC 8208 |
| Data Link Layer | CCITT Q.921 |
| Physical Layer | CCITT I.430, I.431 |

Figure 2 Profile protocol stack for end system

ISDN - Packet-mode service - D-channel access VC with use of Q.931 (COTS over CONS)

Profile TC43112, TD43112

Profiles TC43112 and TD43112 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Packet Mode Bearer Service (D-channel). The end systems communicate through a single ISDN (D-channel) Virtual Call (with use of Q.931).

These profiles are specified in a multi-part ISP.
Part 2 and 3 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles.
Part 24, 27 and 28 specify the ISDN common requirements for Groups TC and TD profiles.
Part 35 of this ISP defines profile TC43112 and Part 45 of this ISP defines profile TD43112.

Figure 1 illustrates the end system configuration to which profiles TC43112 and TD43112 apply:

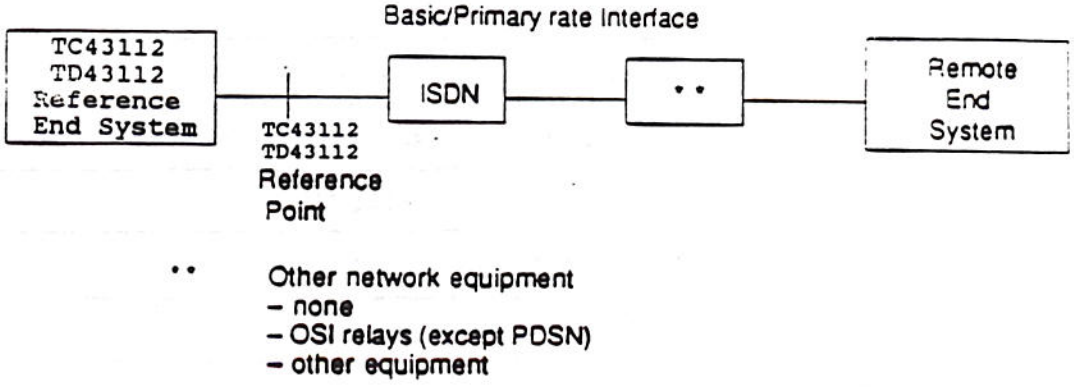



**Figure 1** Scenario of applicability of profiles TC43112 and TD43112

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end systems.

These profiles specify the required functions from the supporting protocol stack shown below in Figures 2 and 3 at the reference point S/T:

| | | |
|---|---|---|
| Transport Layer | ISO/IEC 8073 | |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 | |
| | CCITT Q.931 | SO/IEC 3208 |
| Data Link Layer | CCITT Q.921 | |
| Physical Layer | CCITT I.430, I.431 | |

Figure 2 Profile protocol stack for end system receiving a call

| | | |
|---|---|---|
| Transport Layer | ISO/IEC 8073 | |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 | |
| | ISO/IEC8208 | |
| Data Link Layer | CCITT Q.921 | |
| Physical Layer | CCITT I.430, I.431 | |

Note: Q.931 is not used when making a call in case of D-channel access

Figure 3 Profile protocol stack for end system making a call

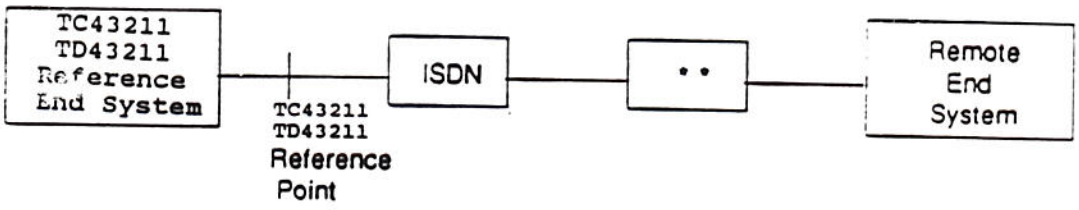
ISDN - Packet-mode service - B-channel - semi-permanent access VC without use of Q.931 (COTS over CONS)

Profile TC43211, TD43211

Profiles TC43211 and TD43211 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Packet Mode Bearer Service (B-channel - semi-permanent access). The end systems communicate through a single ISDN (B-channel) Virtual Call (without use of Q.931).

These profiles are specified in a multi-part ISP.
Part 2 and 3 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles.
Part 23 specifies the ISDN common requirements for Groups TC and TD profiles.
Part 36 of this ISP defines profile TC43211 and Part 46 of this ISP defines profile TD43211.

Figure 1 illustrates the end system configuration to which profiles TC43211 and TD43211 apply:




•• Other network equipment
- none
- OSI relays (except PDSN)
- other equipment

**Figure 1** Scenario of applicability of profiles TC43211 and TD43211

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end sytems.

These profiles specify the required functions from the supporting protocol stack shown below in Figure 2, at the reference point S/T:

| | |
|---|---|
| Transport Layer | SO/IEC 8073 |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 |
| | SO/IEC 8208 |
| Data Link Layer | ISO 7776 |
| Physical Layer | CCITT I.430, I.431 |

**Figure 2 Profile protocol stack for end system**

ISDN - Packet-mode service - B-channel - semi-permanent access VC with use of Q.931 (COTS over CONS)

Profile TC43212, TD43212

Profiles TC43212 and TD43212 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Packet Mode Bearer Service (B-Channel, Semi-permanent access). The end systems communicate through a single ISDN (B-channel) Virtual Call (with use of Q.931).

These profiles are specified in a multi-part ISP.
Part 2 and 3 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles.
Part 23, 27 and 28 specify the ISDN common requirements for Groups TC and TD profiles.
Part 37 of this ISP defines profile TC43212 and Part 47 of this ISP defines profile TD43212.

Figure 1 illustrates the end system configuration to which profiles TC43212 and TD43212 apply:

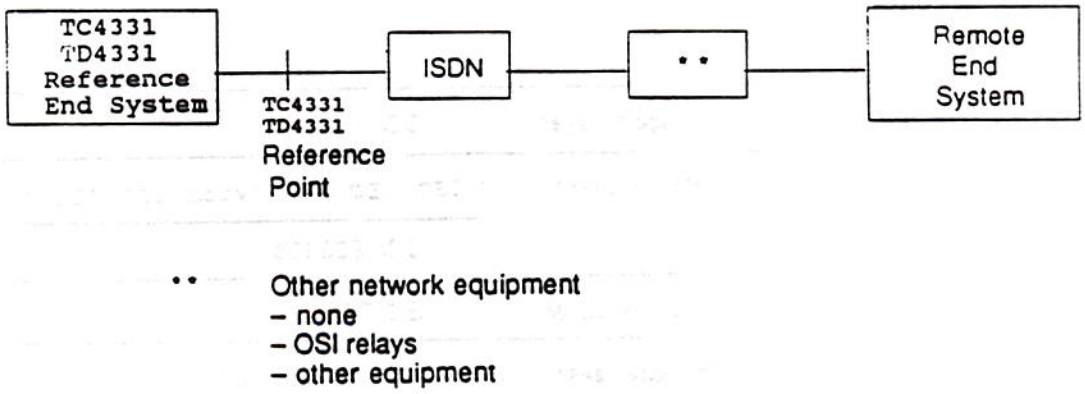



**Figure 1 Scenario of applicability of profiles TC43212 and TD43212**

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end systems.

These profiles specify the required functions from the supporting protocol stack shown below in Figures 2 and 3, at the reference point S/T:

| | | |
|---|---|---|
| Transport Layer | SO/IEC 8073 | |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 | |
| | CCITT Q.931 | SO/IEC8208 |
| Data Link Layer | CCITT Q.921 | ISO 7776 |
| Physical Layer | CCITT I.430, I.431 | |

Figure 2 Profile protocol stack for end system receiving a call

| | | |
|---|---|---|
| Transport Layer | ISO/IEC 8073 | |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 | |
| | ISO/IEC8208 | |
| Data Link Layer | ISO 7776 | |
| Physical Layer | CCITT I.430, I.431 | |

Note: Q.931 is not used when making a call in case of B-channel - semi-permanent access.

Figure 3 Profile protocol stack for end system making a call

ISDN - Packet-mode service - B-channel demand access VC(COTS over CONS)

Profile TC4331, TD4331

Profiles TC4331 and TD4331 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Packet Mode Bearer Service (B-channel demand access). The end systems communicate through a single ISDN (B-channel) Virtual Call.

These profiles are specified in a multi-part ISP. Part 2 and 3 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles. Part 23, 26, 27 and 28 specify the ISDN common requirements for Groups TC and TD profiles. Part 38 of this ISP defines profile TC4331 and Part 48 of this ISP defines profile TD4331.

Figure 1 illustrates the end system configuration to which profiles TC4331 and TD4331 apply:

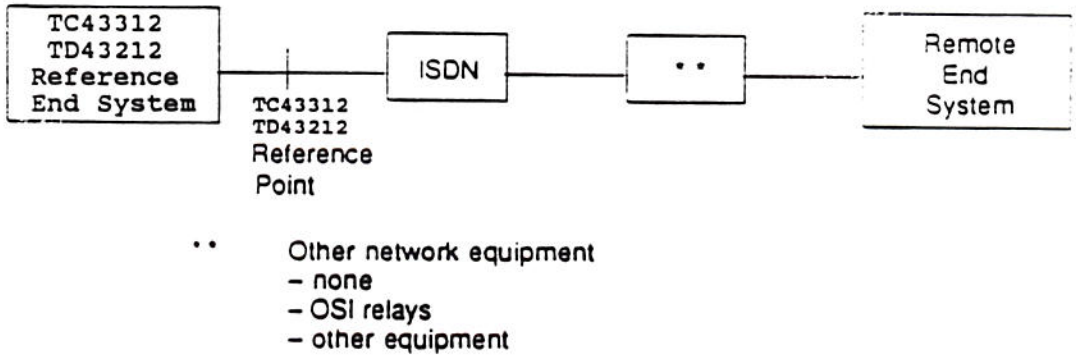



**Figure 1** Scenario of applicability of profiles TC4331 and TD4331

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end systems.

These profiles specify the required functions from the supporting protocol stack shown below in Figure 2, at the reference point S/T:

| | | |
|---|---|---|
| Transport Layer | ISO/IEC 8073 | |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 | |
| | CCITT Q.931 | ISO/IEC8208 |
| Data Link Layer | CCITT Q.921 | ISO 7776 |
| Physical Layer | CCITT I.430, I.431 | |

Figure 2 Profile protocol stack for end system

Packet Switched Data Network - Permanent Access - ISDN B-Channel VC (COTS over CONS)

Profiles TC1131, TD1131

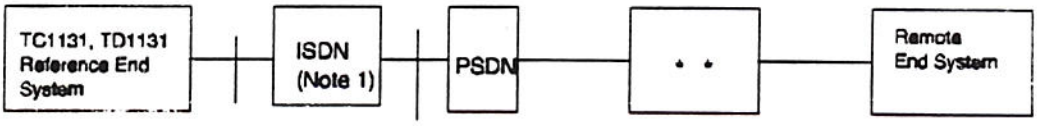
Profiles TC1131 and TD1131 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Circuit Mode Unrestricted Bearer Service to access a PSDN.

Profiles TC1131 and TD1131 apply when using X.25 Virtual Call (VC).

In these profiles, the ISDN B-Channel provides a circuit mode 64 kbits/s unrestricted bearer service over a semi-permanent B-Channel between the reference end system and the PSDN port.

These Profiles are specified in a multi-part ISP. Parts 2, 3 and 9 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles. Part 30 of this ISP defines profile TC1131 and Part 40 defines profile TD1131.

Figure 1 illustrates the end system configuration to which profiles TC1131, and TD1131 apply.




Note 2

TC1131
TD1131
Reference Point

* * Other network equipment covered by TR10000 none,OSI relays or other equipment

Figure 1

Note 1: Communication between the reference end system and the PSDN port is via a single or muliple ISDN configuration. The OSI Connection Mode Transport Service and OSI Connection Mode Network Service are provided in both end systems.

Note 2: The structure of the interface between the ISDN and PSDN is outside the scope of this profile.

These profiles specify the required functions from the supporting protocol stack shown below in Figure 2, at the reference point S/T.

| | |
|---|---|
| Transport Layer | ISO/IEC 8073 |
| Network Layer | ISO/IEC 9574 with ISO/IEC 8878 |
| | ISO/IEC 8208 |
| Data Link Layer | ISO 7776 |
| Physical Layer | CCITT I.430 or I.431 |

B Channnel

Figure 2

**Packet Switched Data Network - Switched Access - ISDN B-Channel VC (COTS over COTS)**

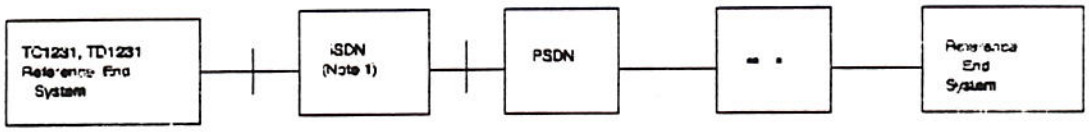
Profiles TC1231, TD1231

Profiles TC1231 and TD1231 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Circuit Mode Unrestricted Bearer Service to access a PSDN.

In these profiles, the ISDN provides a circuit mode 64 kbits/s unrestricted bearer service over an on-demand B-Channel between the reference end system and the PSDN port. The D-Channel is used to carry signalling relating to the establishment and control of the B-Channel connections.

These Profiles are specified in a multi-part ISP. Parts 2, 3, 22, 25 and 28 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles. Part 31 of this ISP defines profile TC1231 and Part 41 defines profile TD1231.

Figure 1 illustrates the end system configuration to which profiles TC1231 and TD1231 apply.




TC1231
TD1231
Reference point

Note 2

* * Other network equipment covered by TR10000
none, OSI relays or other equipment

Figure 1

Note 1: Communication between the reference end system and the PSDN port is via a single or muliple ISDN configuration. The OSI Connection Mode Transport Service and OSI Connection Mode Network Service are provided in both end systems.

Note 2: The structure of the interface between the ISDN and PSDN is outside the scope of this profile.

These profiles specify the required functions from the supporting protocol stack shown below in figure 2, at the reference point S/T.

| | | |
|---|---|---|
| Transport Layer | ISO/IEC 8073 | |
| Network Layer | ISO/IEC 9574 with ISO 8878 | |
| | CCITT Q.931 | ISO/IEC 8208 |
| Data Link Layer | CCITT Q.921 | ISO 7776 |
| Physical Layer | CCITT I.430 or I.431 | |

D Channel B Channnel

Figure 2

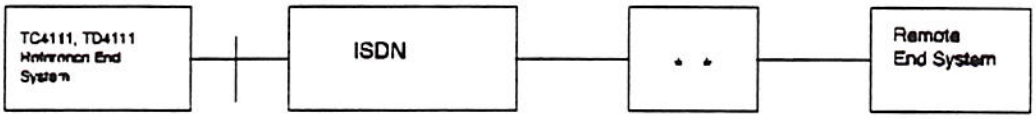
ISDN -Semi-permanent service -B-Channel - X.25 DTE -DTE (COTS over CONS)

Profile TC 4111 TD 4111

Profiles TC 4111 and TD 41111 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Circuit Mode Unrestricted Bearer Service (Semi-Permanent). The end systems communicate through a single ISDN (B-Channel) Virtual Call (X.25 DTE to DTE operation).

These profiles are specified in a multi-part ISP. Parts 2, 3 and 21 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles. Part 32 of this ISP defines profile TC4111 and Part 42 defines profile TD4111.

Figure 1 illustrates the end system configuration to which profiles TC4111 and TD4111 apply.




TC4111
TD4111
Reference Point

** Other network equipment covered by TR10000 none, OSI relays or other equipment.

Figure 1

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end systems.

These profiles specify the required functions from the supporting protocol stack shown below, at the reference point S/T.

| | |
|---|---|
| Transport Layer | ISO/IEC 8073 |
| Network Layer | ISO/IEC 9574&AM1 with ISO/IEC 8878 |
| | ISO/IEC 8208 |
| Data Link Layer | ISO 7776 |
| Physical Layer | CCITT I.430 or I.431 |

B Channnel

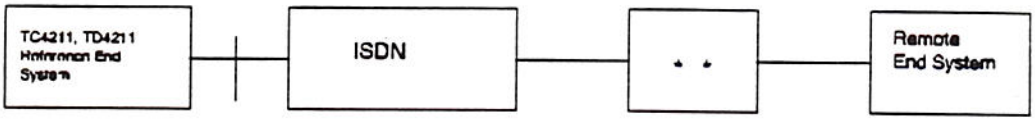
ISDN -Circuit mode service -B-Channel - X.25DTE -DTE (COTS over CONS)

Profile TC 4211, TD 4211

Profiles TC 4211 and TD 4211 are applicable to end systems concerned with operating in the OSI environment. These profiles specify a combination of standards which provide a Connection Mode Transport Service (Classes 0 and 2 for TC or Class 0 for TD) using the Connection Mode Network Service. These profiles are applicable to end systems using an ISDN Circuit Mode Unrestricted Bearer Service. The end systems communicate through a single ISDN Virtual Call (X.25 DTE to DTE operation).

These profiles are specified in a multi-part ISP. Parts 2,3, 21, 25 and 28 of this ISP specify the subnetwork-type independent requirements for Groups TC and TD profiles. Part 33 of this ISP defines profile TC4211 and Part 43 defines profile TD4211.

Figure 1 illustrates the end system configuration to which profiles TC 4211 and TD 4211 apply.




TC4211
TD4211
Reference Point

** Other network equipment covered by TR10000 none, OSI relays or other equipment.

Figure 1

Communication between the reference end system and the compatible end system is via a single or multiple ISDN configuration, or via a combination of ISDN(s) and single or multiple intermediate systems. The OSI Connection Mode Transport and Network Services are provided in both end systems.

These profiles specify the required functions from the supporting protocol stack shown below in figure 2 at the reference point S/T.

| | | |
|---|---|---|
| Transport Layer | ISO/IEC 8073 | |
| Network Layer | ISO/IEC 8574 with ISO 8878 | |
| | CCITT Q.931 | ISO/IEC 8208 |
| Data Link Layer | CCITT Q.921 | ISO 7776 |
| Physical Layer | CCITT I.430 or I.431 | |

D Channel B Channnel

Figure 2