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Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Inter-exchange signalling protocol — Route Restriction Class additional network feature

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Réseau privé à intégration de services — Protocole de signalisation d'interéchange — Caractéristique de réseau additionnelle de classe de restriction de route



Reference number
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. 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 voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 13241was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

Annex A forms an integral part of this International Standard. Annex B is for information only.

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Introduction

This International Standard is one of a series of Standards defining services and signalling protocols applicable to Private Integrated Services Networks (PISNs). The series uses ISDN concepts as developed by CCITT and conforms to the framework of Standards for Open Systems Interconnection as defined by ISO.

This particular International Standard specifies the signalling protocol for use at the Q reference point in support of the Route Restriction Class additional network feature.

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Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Inter-exchange signalling protocol — Route Restriction Class additional network feature

1 Scope

This International Standard specifies the signalling protocol for the support of the Route Restriction Class (RRC) additional network feature (ANF-RRC) at the Q reference point between Private Integrated Services Network Exchanges (PINXs) connected together within a Private Integrated Services Network (PISN).

ANF-RRC is a feature which applies in the establishment phase of a call, allowing that call to access facilities that are within an allowable restriction range.

The Q reference point is defined in ISO/IEC 11579-1.

Service specifications are produced in three stages and according to the method specified in CCITT Recommendation I.130. This International Standard contains the stage 3 specification for the Q reference point and satisfies the requirements identified by the stage 1 and stage 2 specifications in ISO/IEC 13242.

The signalling protocol for ANF-RRC operates on top of the signalling protocol for basic circuit switched call control, as specified in ISO/IEC 11572, and uses certain aspects of the generic procedures for the control of supplementary services specified in ISO/IEC 11582.

This International Standard also specifies additional signalling protocol requirements for the support of interactions at the Q reference point between ANF-RRC and other supplementary services and ANFs.

This International Standard is applicable to PINXs which can interconnect to form a PISN.

2 Conformance

In order to conform to this International Standard, a PINX shall satisfy the requirements identified in the Protocol Implementation Conformance Statement (PICS) proforma in annex A.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 11571:1994, *Information technology — Telecommunications and information exchange between systems — Numbering and sub-addressing in private integrated services networks.*

ISO/IEC 11572:1997, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Circuit mode bearer services — Inter-exchange signalling procedures and protocol.*

ISO/IEC 11574:1994, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Circuit-mode 64 kbit/s bearer services — Service description, functional capabilities and information flows.*

ISO/IEC 11579-1:1994, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Part 1: Reference configuration for PISN Exchanges (PINX).*

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ISO/IEC 11582:1995, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Generic functional protocol for the support of supplementary services — Inter-exchange signalling procedures and protocol.*

ISO/IEC 13242:1997, *Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Specification, functional model and information flows — Route Restriction Class additional network feature.*

CCITT Rec. I.112 (1988), *Vocabulary of Terms for ISDNs.*

CCITT Rec. I.130 (1988), *Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN.*

CCITT Rec. I.210 (1988), *Principles of telecommunication services supported by an ISDN and the means to describe them.*

CCITT Rec. Z.100 (1988), *Specification and Description Language.*

4 Definitions

For the purposes of this International Standard, the following definitions apply.

4.1 External Definitions

This International Standard uses the following terms defined in other documents.

- Additional Network Feature (ISO/IEC 13242)
- Application Protocol Data Unit (APDU) (ISO/IEC 11582)
- Basic Service (CCITT Rec. I.210)
- Call, Basic Call (ISO/IEC 11572)
- End PINX (ISO/IEC 11572)
- Facility (ISO/IEC 13242)
- Facility Restriction Class (ISO/IEC 13242)
- Incoming Gateway PINX (ISO/IEC 11572)
- Interpretation APDU (ISO/IEC 11582)
- Network Facility Extension (NFE) (ISO/IEC 11582)
- Originating PINX (ISO/IEC 11572)
- Outgoing Gateway PINX (ISO/IEC 11572)
- Preceding PINX (ISO/IEC 11572)
- Private Integrated Services Network (PISN) (ISO/IEC 11579-1)
- Private Integrated Services Network Exchange (PINX) (ISO/IEC 11579-1)
- Route Access Class (ISO/IEC 13242)
- Signalling (CCITT Rec. I.112)
- Subsequent PINX (ISO/IEC 11572)
- Supplementary Service (CCITT Rec. I.210)
- Supplementary Services Control Entity (ISO/IEC 11572)
- Terminating PINX (ISO/IEC 11572)
- Transit PINX (ISO/IEC 11572)
- User (ISO/IEC 11574)

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5 List of acronyms

ANF	Additional Network Feature
ANF-RRC	Route Restriction Class additional network feature
APDU	Application Protocol Data Unit
ASN.1	Abstract Syntax Notation no. 1
FRC	Facility Restriction Class
ISDN	Integrated Services Digital Network
NFE	Network Facility Extension
PICS	Protocol Implementation Conformance Statement
PINX	Private Integrated services Network Exchange
PISN	Private Integrated Services Network
RAC	Route Access Class
RRC	Route Restriction Class
SDL	Specification and Description Language

6 Signalling protocol for the support of ANF-RRC

6.1 ANF-RRC description

ANF-RRC permits an RAC to be associated with a call to indicate its entitlement to use certain facilities during routeing.

6.2 ANF-RRC operational requirements

6.2.1 Requirements on the Originating PINX

ISO/IEC 11572 protocol control procedures for call establishment at the outgoing side of an inter-PINX link shall apply to the establishment of the call.

Generic procedures for the call-related control of supplementary services, as specified in ISO/IEC 11582 for an End PINX, shall apply.

6.2.2 Requirements on a Transit PINX

ISO/IEC 11572 protocol control procedures for call establishment at the incoming side and at the outgoing side of an inter-PINX link shall apply to the establishment of the call.

Generic procedures for the call-related control of supplementary services, as specified in ISO/IEC 11582 for a Transit PINX, shall apply.

6.2.3 Requirements on a Terminating PINX

ISO/IEC 11572 protocol control procedures for call establishment at the incoming side of an inter-PINX link shall apply to the establishment of the call.

Generic procedures for the call-related control of supplementary services, as specified in ISO/IEC 11582 for an End PINX, shall apply.

6.2.4 Requirements on the Incoming Gateway PINX

ISO/IEC 11572 protocol control procedures for call establishment at the outgoing side of an inter-PINX link shall apply to the establishment of the call.

Generic procedures for the call-related control of supplementary services, as specified in ISO/IEC 11582 for an End PINX, shall apply.

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6.2.5 Requirements on the Outgoing Gateway PINX

ISO/IEC 11572 protocol control procedures for call establishment at the incoming side of an inter-PINX link shall apply to the establishment of the call.

Generic procedures for the call-related control of supplementary services, as specified in ISO/IEC 11582 for an End PINX, shall apply.

6.3 ANF-RRC coding requirements

6.3.1 Operations

The operations defined in Abstract Syntax Notation number 1 (ASN.1) in Table 1 shall apply.

Table 1 — Operations in Support of ANF-RRC

```
Route-Restriction-Class-Operations
                    {iso standard pss1-route-restriction-class (13241) rrc-operations (0)}

DEFINITIONS EXPLICIT TAGS ::=

BEGIN

IMPORTS             OPERATION, ERROR FROM Remote-Operation-Notation
                        {joint-iso-ccitt(2) remote-operations(4) notation (0)}
                    Extension FROM Manufacturer-specific-service-extension-definition
                        {iso standard pss1-generic-procedures (11582) msi-definition (0)};

RouteRestrictionClass   ::=  OPERATION
                             ARGUMENT RAC

RAC                     ::=  SEQUENCE {
                                 rac INTEGER (0..99),
                                 extension   CHOICE {
                                     [1] IMPLICIT Extension,
                                     [2] IMPLICIT SEQUENCE OF Extension
                                 } OPTIONAL
                             }

routeRestrictionClass        RouteRestrictionClass::= 83

END                 -- of Route-Restriction-Class-Operations
```

6.3.2 Information elements

6.3.2.1 Facility information element

APDUs of the operations defined in 6.3.1 shall be coded in the Facility information element in accordance with ISO/IEC 11582.

Apart from the exceptions specified in 6.8.3 and 6.8.10, when conveying the invoke APDU of operation routeRestrictionClass, the destinationEntity data element of the NFE shall contain value anyTypeOfPINX and the destinationEntityAddress data element shall be omitted.

NOTE 1 This allows the invoke APDU to be passed through any Transit PINX that does not recognise it.

When conveying the invoke APDU of operation routeRestrictionClass, the Interpretation APDU shall be included and shall have the value discardAnyUnrecognisedInvokePdu.

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6.3.3 Messages

The Facility information element shall be conveyed in a SETUP message as specified in ISO/IEC 11582.

6.4 ANF-RRC state definitions

No additional states beyond those identified in ISO/IEC 11572 and 11582 are needed for ANF-RRC.

6.5 ANF-RRC signalling procedures

The signalling procedures specified below are in support of sending and receiving the RAC.

6.5.1 Actions at the Originating PINX

The SDL representation of procedures at the Originating PINX is shown in Figure B.1 of Annex B.

6.5.1.1 Normal procedures

A call shall be allowed to be established only if the calling user's RAC is such that any facilities required for routeing out of the Originating PINX have FRCs that are allowed to be used by that RAC. If establishment is allowed, the SETUP message shall contain a routeRestrictionClass invoke APDU containing the call's RAC value.

6.5.1.2 Exceptional procedures

If the RAC associated with the calling user does not permit call establishment, the Originating PINX shall not proceed with call establishment.

6.5.2 Actions at a Transit PINX

The SDL representation of procedures at the Transit PINX is shown in Figure B.2 of Annex B.

6.5.2.1 Normal procedures

On receipt of a SETUP message containing a routeRestrictionClass invoke APDU, the Transit PINX shall make use of the RAC received in that APDU. On receipt of a SETUP message containing no routeRestrictionClass invoke APDU, the Transit PINX may use a default RAC based on the particular incoming route. If an RAC is being used, the Transit PINX shall allow the call to be routed further only if the RAC is such that any facilities required have FRCs that are allowed to be used by that RAC. If further routeing is allowed, the SETUP message sent on the next inter-PINX link shall contain a routeRestrictionClass invoke APDU containing the call's RAC value.

6.5.2.2 Exceptional procedures

If the RAC used does not permit further routeing, the Transit PINX shall initiate release of the call using an appropriate cause value from the range 33 to 47 (resource unavailable class), e.g. cause 34 "no circuit/channel available".

NOTE 2 Interactions with other supplementary services or ANFs that are not described in 6.8 can lead to alternative actions in this situation (e.g. interception to an attendant).

6.5.3 Actions at a Terminating PINX

A routeRestrictionClass invoke APDU shall be discarded by the Terminating PINX.

6.6 ANF-RRC impact of interworking with Public ISDNs

6.6.1 Actions at an Incoming Gateway PINX

6.6.1.1 Normal procedures

On receipt of a call establishment request from a public ISDN, the Incoming Gateway PINX may use a default RAC based on the particular incoming route or an RAC provided by the other network. If an RAC is being used, the Incoming Gateway PINX shall allow the call to be routed further only if the RAC is such that any facilities required have FRCs that are allowed to be used by that RAC. If further routeing is allowed, the SETUP message sent on the inter-PINX link shall contain a routeRestrictionClass invoke APDU containing the call's RAC value.

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6.6.1.2 Exceptional procedures

If the RAC used does not permit further routeing, the Incoming Gateway PINX shall not allow call establishment to proceed.

6.6.2 Actions at an Outgoing Gateway PINX

6.6.2.1 Normal procedures

On receipt of a SETUP message containing a routeRestrictionClass invoke APDU, the Outgoing Gateway PINX shall make use of the RAC received in that APDU. On receipt of a SETUP message containing no routeRestrictionClass invoke APDU, the Outgoing Gateway PINX may use a default RAC based on the particular incoming route. If an RAC is being used, the Outgoing Gateway PINX shall allow the call to be routed to the public ISDN only if the RAC is such that any facilities required have FRCs that are allowed to be used by that RAC.

6.6.2.2 Exceptional procedures

If the RAC used does not permit routeing to the public ISDN, the Outgoing Gateway PINX shall initiate release of the call using an appropriate cause value from the range 33 to 47 (resource unavailable class), e.g. cause 34 "no circuit/channel available".

NOTE 3 Interactions with other supplementary services or ANFs that are not described in 6.8 can lead to alternative actions in this situation (e.g. interception to an attendant).

6.7 ANF-RRC impact of interworking with non-ISDNs

6.7.1 Actions at an Incoming Gateway PINX

6.7.1.1 Normal procedures

On receipt of a call establishment request from a non-ISDN, the Incoming Gateway PINX may use a default RAC based on the particular incoming route or an RAC provided by the other network. If an RAC is being used, the Incoming Gateway PINX shall allow the call to be routed further only if the RAC is such that any facilities required have FRCs that are allowed to be used by that RAC. If further routeing is allowed, the SETUP message sent on the inter-PINX link shall contain a routeRestrictionClass invoke APDU containing the call's RAC value.

6.7.1.2 Exceptional procedures

If the RAC used does not permit further routeing, the Incoming Gateway PINX shall not allow call establishment to proceed.

6.7.2 Actions at an Outgoing Gateway PINX

6.7.2.1 Normal procedures

On receipt of a SETUP message containing a routeRestrictionClass invoke APDU, the Outgoing Gateway PINX shall make use of the RAC received in that APDU. On receipt of a SETUP message containing no routeRestrictionClass invoke APDU, the Outgoing Gateway PINX may use a default RAC based on the particular incoming route. If an RAC is being used, the Outgoing Gateway PINX shall allow the call to be routed to the non-ISDN only if the RAC is such that any facilities required have FRCs that are allowed to be used by that RAC.

NOTE 4 The RAC value can be forwarded to the non-ISDN, if applicable.

6.7.2.2 Exceptional procedures

If the RAC used does not permit routeing to the non-ISDN, the Outgoing Gateway PINX shall initiate release of the call using an appropriate cause value from the range 33 to 47 (resource unavailable class), e.g. cause 34 "no circuit/channel available".

NOTE 5 Interactions with other supplementary services or ANFs that are not described in 6.8 can lead to alternative actions in this situation (e.g. interception to an attendant).

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6.8 Protocol interactions between ANF-RRC and other supplementary services and ANFs

This clause specifies protocol interactions with other supplementary services and ANFs for which stage 3 Standards had been published at the time of publication of this International Standard. For interactions with supplementary services and ANFs for which stage 3 Standards are published subsequent to the publication of this International Standard, see those other stage 3 Standards.

Additional interactions that have no impact on the signalling protocol at the Q reference point can be found in the relevant stage 1 specifications.

6.8.1 Interaction with Calling Name Identification Presentation (SS-CNIP)

No interaction.

6.8.2 Interaction with Connected Name Identification Presentation (SS-CONP)

No interaction.

6.8.3 Interaction with Call Forwarding Unconditional (SS-CFU)

In the case of call diversion by rerouteing, the SS-CF Served User PINX shall include the routeRestrictionClass Invoke APDU in the same message as the callRerouteing Invoke APDU. The RAC value used shall be either that of the served user or that of the calling user. The destinationEntity data element of the NFE shall contain the value endPINX.

If the Rerouteing PINX receives a routeRestrictionClass Invoke APDU, it shall utilize the received RAC and proceed in accordance with 6.5.1.1 or 6.5.2.1, as appropriate, when rerouteing the call.

If the Rerouteing PINX does not receive a routeRestrictionClass Invoke APDU, the Rerouteing PINX is responsible for assigning the RAC to be used for the rerouteing for the call (e.g. the RAC for the calling user).

6.8.4 Interaction with Call Forwarding Busy (SS-CFB)

As for SS-CFU (6.8.3).

6.8.5 Interaction with Call Forwarding No Reply (SS-CFNR)

As for SS-CFU (6.8.3).

6.8.6 Interaction with Call Deflection (SS-CD)

The protocol interactions with Call Deflection Immediate shall be as specified in 6.8.3 for interaction with SS-CFU.

The protocol interactions with Call Deflection from Alert shall be as specified in 6.8.5 for interaction with SS-CFNR.

6.8.7 Interaction with Call Transfer (SS-CT)

No interaction.

6.8.8 Interaction with Completion of Calls to Busy Subscriber (SS-CCBS)

No interaction.

6.8.9 Interaction with Completion of Calls on No Reply (SS-CCNR)

No interaction.

6.8.10 Interaction with Path Replacement (ANF-PR)

6.8.10.1 Actions at the ANF-PR Requesting PINX

The Requesting PINX may include a routeRestrictionClass invoke APDU in the FACILITY message in which the pathReplacePropose invoke APDU is sent, in order to indicate an RAC that may be used for establishment of the new connection. The RAC can, for example, be the RAC of the local user. The destinationEntity data element of the NFE shall contain the value endPINX.

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A routeRestrictionClass invoke APDU in a SETUP message containing a pathReplaceSetup invoke APDU shall be discarded by the Requesting PINX.

6.8.10.2 Actions at the ANF-PR Cooperating PINX

If the received FACILITY message containing the pathReplacePropose invoke APDU contains a routeRestrictionClass invoke APDU, the RAC contained in that invoke APDU may be used for establishment of the new connection. Otherwise, the Cooperating PINX may assign an RAC, which can, for example, be the RAC associated with the local user.

If an RAC is being used, the new connection shall be allowed to be established only if the RAC is such that any facilities required for routeing out of the Cooperating PINX have FRCs that are allowed to be used by that RAC. If establishment is allowed, the SETUP message containing the pathReplaceSetup invoke APDU shall contain a routeRestrictionClass invoke APDU containing the new connection's RAC value.

If the Cooperating PINX attempts to retain some or all or the existing connection, it shall include the RAC in a routeRestrictionClass invoke APDU with no NFE in the FACILITY message containing the pathReplaceRetain invoke APDU with no NFE.

6.8.10.3 Actions at a Transit PINX on the path of the new connection

The procedures of 6.5.2 shall apply.

6.8.10.4 Actions at a Transit PINX on the path of the retained connection

On receipt of a FACILITY message containing a pathReplaceRetain invoke APDU and a routeRestrictionClass invoke APDU, the Transit PINX shall make use of the RAC received in that APDU. On receipt of a FACILITY message containing a pathReplaceRetain invoke APDU but no routeRestrictionClass invoke APDU, the Transit PINX may use a default RAC based on the particular incoming route. If an RAC is being used, the Transit PINX shall allow a new connection to be established only if the RAC is such that any facilities required have FRCs that are allowed to be used by that RAC. If establishment is allowed, the SETUP message sent on the next inter-PINX link shall contain a routeRestrictionClass invoke APDU containing the new connection's RAC value.

If an RAC is being used and the Transit PINX is able to retain the old connection as far as the subsequent PINX, the Transit PINX shall include a routeRestrictionClass invoke APDU in the FACILITY message containing the pathReplaceRetain invoke APDU.

If the RAC used does not permit establishment of a new connection and the Transit PINX is unable to retain that part of the old connection as far as the subsequent PINX, the Transit PINX shall return a pathReplaceRetain return error APDU.

6.8.11 Interaction with Call Offer (SS-CO)

No interaction.

6.8.12 Interaction with Call Intrusion (SS-CI)

No interaction.

6.8.13 Interaction with Do Not Disturb (SS-DND)

No interaction.

6.8.14 Interaction with Do Not Disturb Override (SS-DNDO)

No interaction.

6.9 ANF-RRC parameter values (Timers)

No interaction.

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Annex A

(normative)

Protocol Implementation Conformance Statement (PICS) proforma

A.1 Introduction

The supplier of a protocol implementation which is claimed to conform to this International Standard shall complete the following Protocol Implementation Conformance Statement (PICS) proforma.

A completed PICS proforma is the PICS for the implementation in question. The PICS is a statement of which capabilities and options of the protocol have been implemented. The PICS can have a number of uses, including use:

- by the protocol implementor, as a check list to reduce the risk of failure to conform to the standard through oversight;
- by the supplier and acquirer, or potential acquirer, of the implementation, as a detailed indication of the capabilities of the implementation, stated relative to the common basis for understanding provided by the Standard's PICS proforma;
- by the user or potential user of the implementation, as a basis for initially checking the possibility of interworking with another implementation — while interworking can never be guaranteed, failure to interwork can often be predicted from incompatible PICSs;
- by a protocol tester, as the basis for selecting appropriate tests against which to assess the claim for conformance of the implementation.

A.2 Instructions for completing the PICS proforma

A.2.1 General structure of the PICS proforma

The PICS proforma is a fixed format questionnaire divided into sub-clauses each containing a group of individual items. Each item is identified by an item number, the name of the item (question to be answered), and the reference(s) to the clause(s) that specifies (specify) the item in the main body of this International Standard.

The "Status" column indicates whether an item is applicable and if so whether support is mandatory or optional. The following terms are used:

m	mandatory (the capability is required for conformance to the protocol);
o	optional (the capability is not required for conformance to the protocol, but if the capability is implemented it is required to conform to the protocol specifications);
o.<n>	optional, but support of at least one of the group of options labelled by the same numeral <n> is required;
x	prohibited;
c.<cond>	conditional requirement, depending on support for the item or items listed in condition <cond>;
<item>:m	simple conditional requirement, the capability being mandatory if item number <item> is supported, otherwise not applicable;
<item>:o	simple conditional requirement, the capability being optional if item number <item> is supported, otherwise not applicable.

Answers to the questionnaire items are to be provided either in the "Support" column, by simply marking an answer to indicate a restricted choice (Yes or No), or in the "Not Applicable" column (N/A).

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A.2.2 Additional information

Items of Additional Information allow a supplier to provide further information intended to assist the interpretation of the PICS. It is not intended or expected that a large quantity will be supplied, and a PICS can be considered complete without any such information. Examples might be an outline of the ways in which a (single) implementation can be set up to operate in a variety of environments and configurations.

References to items of Additional Information may be entered next to any answer in the questionnaire, and may be included in items of Exception information.

A.2.3 Exception information

It may occasionally happen that a supplier will wish to answer an item with mandatory or prohibited status (after any conditions have been applied) in a way that conflicts with the indicated requirement. No pre-printed answer will be found in the Support column for this. Instead, the supplier is required to write into the support column an x.<i> reference to an item of Exception Information, and to provide the appropriate rationale in the Exception item itself.

An implementation for which an Exception item is required in this way does not conform to this International Standard. A possible reason for the situation described above is that a defect in this International Standard has been reported, a correction for which is expected to change the requirement not met by the implementation.

A.3 PICS proforma for this International Standard

A.3.1 Implementation identification

Supplier	
Contact point for queries about the PICS	
Implementation Name(s) and Version(s)	
Other information necessary for full identification, e.g. name(s) and version(s) for machines and/or operating systems; system name(s)	

Only the first three items are required for all implementations; other information may be completed as appropriate in meeting the requirement for full identification.

The terms Name and Version should be interpreted appropriately to correspond with a suppliers terminology (e.g. Type, Series, Model).

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A.3.2 Protocol summary

Protocol version	1.0
Addenda Implemented (if applicable)	
Amendments Implemented	
Have any exception items been required (see A.2.3)?	No [ ] Yes [ ] (The answer Yes means that the implementation does not conform to this International Standard)
Date of statement	

A.3.3 General

Item	Question/feature	References	Status	N/A	Support
A1	Behaviour as Originating PINX for ANF-RRC	6.5.1	o.1		Yes [ ] No [ ]
A2	Behaviour as Transit PINX for ANF-RRC	6.5.2	o.1		Yes [ ] No [ ] Conditions for invoking ANF-RRC should be given as Additional Information
A3	Behaviour as Terminating PINX for ANF-RRC	6.5.3	o.1		Yes [ ] No [ ]
A4	Behaviour as gateway PINX to another network which provides RRC functionality	6.7	o.1		Yes [ ] No [ ]
A5	Behaviour as gateway PINX to another network which does not provide RRC functionality	6.6	o.1		Yes [ ] No [ ]

A.3.4 Procedures

Item	Question/feature	References	Status	N/A	Support
B1	Support of relevant ISO/IEC 11572 and ISO/IEC 11582 procedures at an Originating PINX	6.2.1	A1:m	[ ]	m:Yes[ ]
B2	Support of relevant ISO/IEC 11572 and ISO/IEC 11582 procedures at a Transit PINX	6.2.2	A2:m	[ ]	m:Yes[ ]
B3	Support of relevant ISO/IEC 11572 and ISO/IEC 11582 procedures at a Terminating PINX	6.2.3	A3:m	[ ]	m:Yes[ ]
B4	Support of relevant ISO/IEC 11572 and ISO/IEC 11582 procedures at a Gateway PINX to another network which provides RRC functionality	6.2.4, 6.2.5	A4:m	[ ]	m:Yes[ ]
B5	Support of relevant ISO/IEC 11572 and ISO/IEC 11582 procedures at a Gateway PINX to another network which does not provide RRC functionality	6.2.4, 6.2.5	A5:m	[ ]	m:Yes[ ]

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A.3.5 Coding

Item	Question/feature	References	Status	N/A	Support
C1	Sending of routeRestrictionClass invoke APDU	6.5.1, 6.5.2, 6.6, 6.7	c.1	[ ]	m:Yes[ ]
C2	Receipt of routeRestrictionClass invoke APDU	6.5.2, 6.5.3, 6.6, 6.7	c.2	[ ]	m:Yes[ ]

c.1: if A1, A2, A4, or A5 then m
else N/A

c.2: if A2, A3, A4, or A5 then m
else N/A

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Annex B

(informative)

Specification and Description Language (SDL) representation of procedures

The diagrams in this annex use the Specification and Description Language defined in CCITT Recommendation Z.100 (1988).

Each diagram represents the behaviour of an ANF-RRC Supplementary Service Control entity at a particular type of PINX. In accordance with the protocol model described in ISO/IEC 11582, the Supplementary Service Control entity uses, via the Coordination Function, the services of Generic Functional Transport Control and Basic Call Control.

Where an output symbol represents a primitive to the Coordination Function, and that primitive results in a message being sent, the output symbol bears the name of the message and any remote operations APDU(s) or notification(s) contained in that message. In the case of a message specified in ISO/IEC 11572, basic call actions associated with the sending of that message are deemed to occur.

Where an input symbol represents a primitive from the Coordination Function, and that primitive is the result of a message being received, the input symbol bears the name of the message and any remote operations APDU(s) or notification(s) contained in that message. In the case of a message specified in ISO/IEC 11572, basic call actions associated with the receipt of that message are deemed to have occurred.

The following abbreviation is used:

inv. routeRestrictionClass invoke APDU

B.1 SDL representation of ANF-RRC at the Originating PINX

Figure B.1 shows the behaviour of an ANF-RRC Supplementary Service Control entity within the Originating PINX.

Output signals to the right represent primitives to the Coordination Function in respect of messages sent.

Input signals from the left and output signals to the left represent stimuli between the ANF-RRC Supplementary Service Control entity and the entity which generates, receives, and acts on the RAC.

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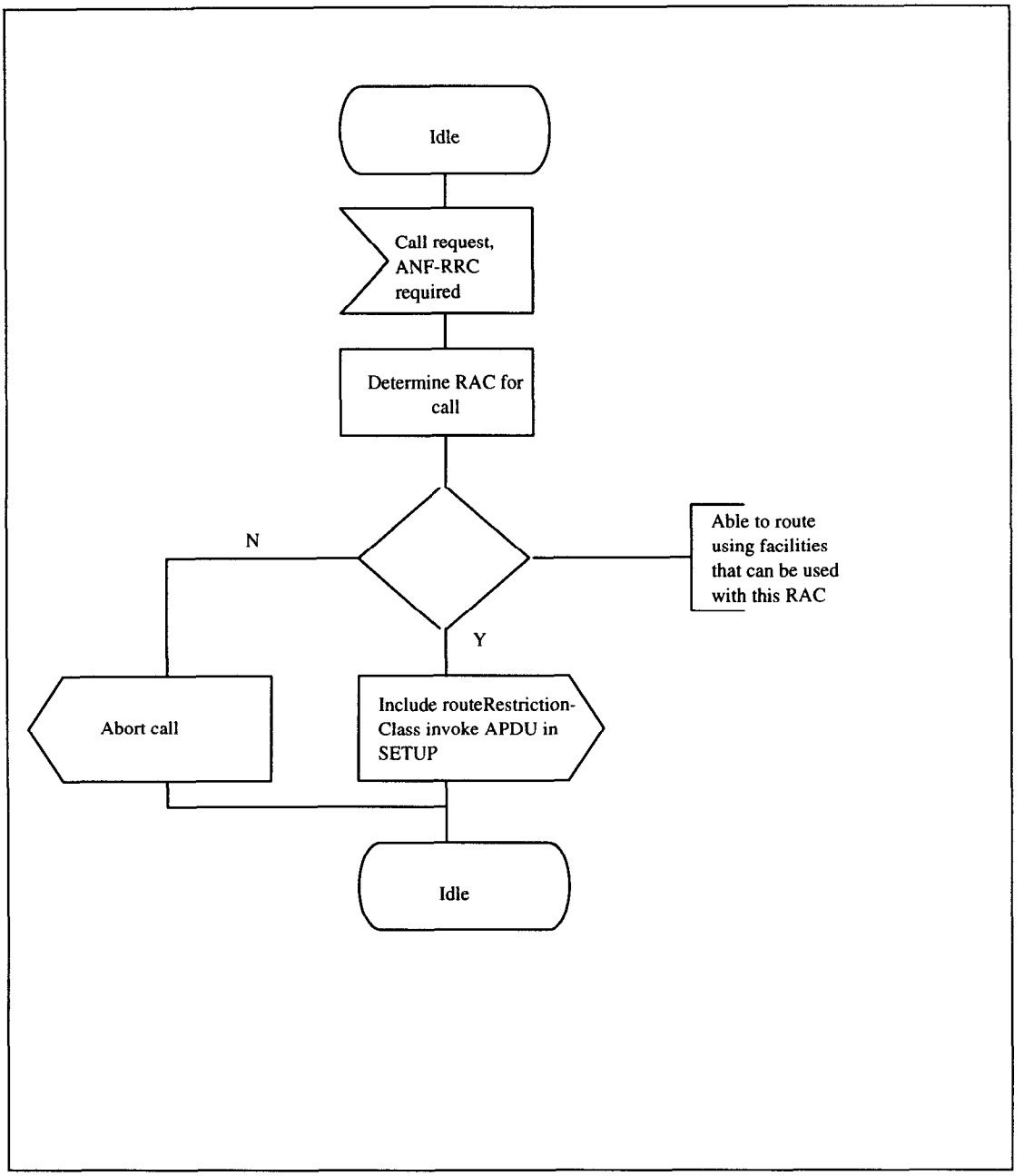

Figure B.1 — Originating PINX SDL

B.2 SDL representation of ANF-RRC at the Transit PINX

Figure B.2 shows the behaviour of an ANF-RRC Supplementary Service Control entity within the Transit PINX.

Input signals from the left and output signals to the left represent primitives to and from the Coordination Function in respect of messages sent and received.

Input signals from the right and output signals to the right represent primitives to and from the Coordination Function in respect of messages sent and received.

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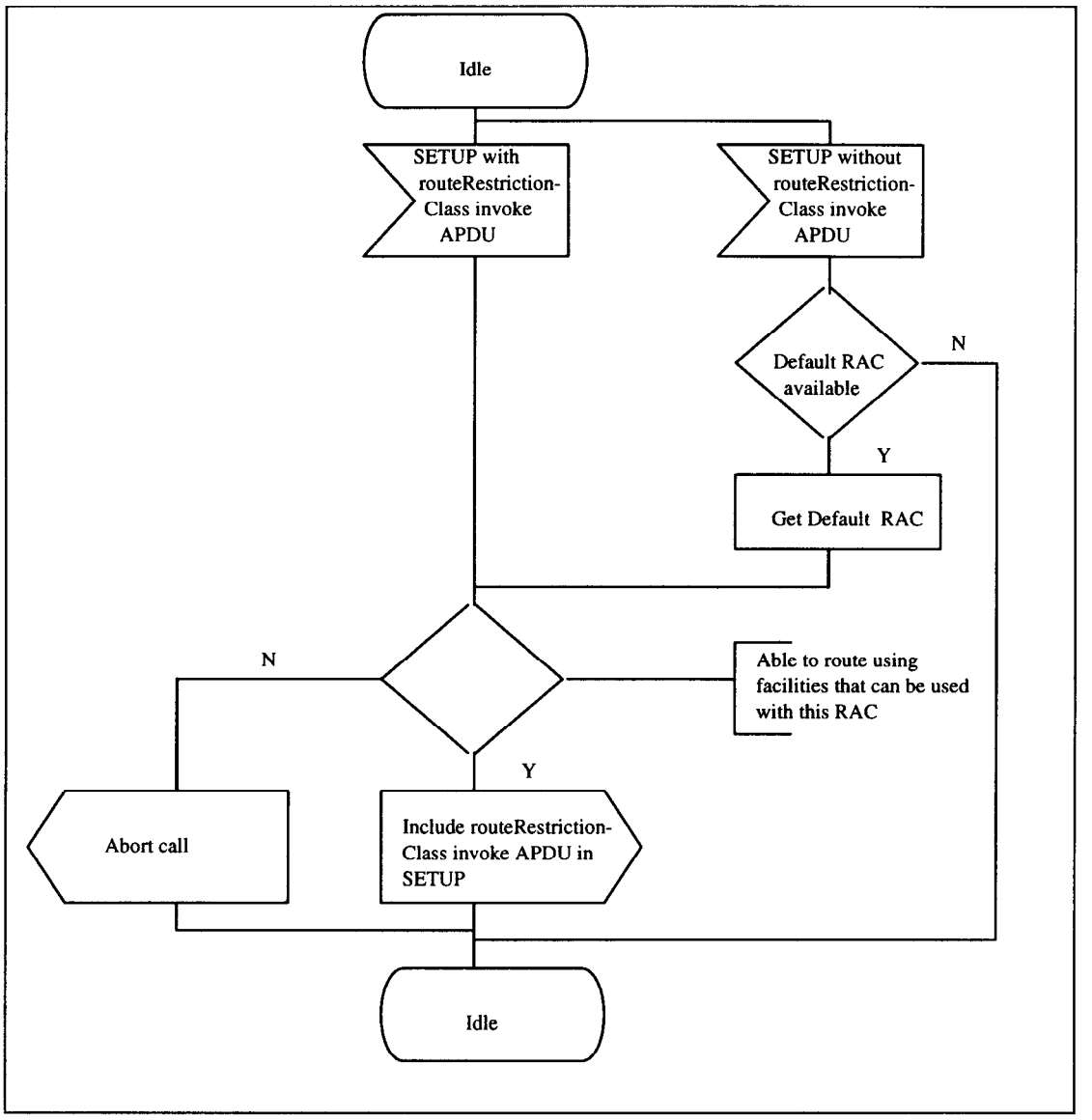

Figure B.2 — Transit PINX SDL

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ICS 35.110

Descriptors: data processing, information interchange, telecommunications, network interconnection, telecommunication network, ISDN, private network, services, signal processing, protocols.

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