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STANDARD

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**Information technology —
Telecommunications and information
exchange between systems — Private
Integrated Services Network —
Specification, functional model and
information flows — Route Restriction
Class additional network feature**

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*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Réseau privé à intégration de services —
Spécifications, modèle fonctionnel et débits d'informations —
Caractéristique de réseau additionnelle de classe de restriction de route*



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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 13242 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

Annex A of this International Standard 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 ITU-T and conforms to the framework of Standards for Open Systems Interconnection as defined by ISO/IEC.

This particular International Standard specifies the Route Restriction Class additional network feature.

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Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Specification, functional model and information flows — Route Restriction Class additional network feature

1 Scope

This International Standard specifies the Route Restriction Class additional network feature (ANF-RRC), which is applicable to various basic services supported by Private Integrated Services Networks (PISN). Basic services are specified in ISO/IEC 11574.

ANF-RRC permits a Route Access Class (RAC) to be associated with a call to indicate its entitlement to use certain facilities during routing.

Additional network feature specifications are produced in three stages, according to the method described in CCITT Recommendation I.130 for supplementary services. This International Standard contains the stage 1 and stage 2 specifications of ANF-RRC. The stage 1 specification (clause 6) specifies the feature as seen by an entity which generates, receives, and acts on the RAC. The stage 2 specification (clause 7) identifies the functional entities involved in the feature and the information flows between them.

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2 Conformance

In order to conform to this International Standard, a Stage 3 Standard shall specify signalling protocols and equipment behaviour that are capable of being used in a PISN which supports the feature specified in this International Standard. This means that, to claim conformance, a Stage 3 Standard is required to be adequate for the support of those aspects of clause 6 and clause 7 which are relevant to the interface or equipment to which the Stage 3 Standard applies.

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 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).*

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.

- Basic service (CCITT Rec. I.210)
- Private Integrated Services Network (PISN) (ISO/IEC 11579-1)
- Private Integrated Services Network Exchange (PINX) (ISO/IEC 11579-1)
- Service (CCITT Rec. I.112)
- Signalling (CCITT Rec. I.112)
- Supplementary Service (CCITT Rec. I.210)
- User (ISO/IEC 11574)

This International Standard refers to the following basic call functional entity (FEs) defined in ISO/IEC 11574.

- Call Control (CC). [\(standards.iteh.ai\)](https://standards.iteh.ai/)

This International Standard refers to the following basic call inter-FE relationships defined in ISO/IEC 11574.

- r2 [ISO/IEC 13242:1997
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This International Standard refers to the following basic call information flows defined in ISO/IEC 11574.

- SETUP REJECT request/indication
- SETUP request/indication.

4.2 Additional Network Feature

A capability, over and above that of a basic service, provided by a PISN, but not directly to a PISN user.

4.3 Call, Basic Call

An instance of the use of a basic service.

4.4 Route Access Class (RAC)

An integer representation of the entitlement of a call to use certain facilities during routing.

4.5 Facility Restriction Class (FRC)

Restrictions on access to a particular facility, expressed in terms of the RAC values that are entitled to use the facility and those that are not.

4.6 Facility

A physical or logical entity that a call can use in order to achieve routing to its destination.

NOTE — Examples of facilities include international public network connections, long distance (national) public network connections, particular public networks, and particular inter-PINX links.

5 List of acronyms

ANF	Additional Network Feature
ANF-RRC	ANF Route Restriction Class
CC	Call Control (functional entity)
FE	Functional Entity
FRC	Facility Restriction Class
ISDN	Integrated Services Digital Network
PINX	Private Integrated services Network Exchange
PISN	Private Integrated Services Network
RAC	Route Access Class
SDL	Specification and Description Language

6 ANF-RRC stage 1 specification

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6.1 Description

[ISO/IEC 13242:1997](#)

6.1.1 General description

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

6.1.2 Qualifications on applicability to telecommunication services

This additional network feature is applicable to all basic services defined in ISO/IEC 11574.

6.2 Procedure

6.2.1 Provision/Withdrawal

For the provision of ANF-RRC within a PISN, each potential source of calls (e.g. each user) shall be assigned an RAC. In addition, each facility whose use is to be controlled by ANF-RRC shall be assigned an FRC. An FRC shall consist of either:

- one or more RAC values that are entitled to use the facility; or
- one or more RAC values that are not entitled to use the facility.

Some PISNs may treat RAC values as levels, whereby each RAC value other than the lowest numbered RAC value is entitled to use all facilities that the value below can use, plus some specific additional facilities. Any PINX implementation shall be capable of providing ANF-RRC in this way and some PINX implementations may be capable of providing ANF-RRC only in this way (see annex A).

6.2.2 Normal procedures

6.2.2.1 Activation/Deactivation/Registration/Interrogation

ANF-RRC shall be permanently activated. No information needs to be registered within the PISN for this ANF, and therefore interrogation is not applicable.

6.2.2.2 Invocation and operation

An RAC shall be associated with each call in accordance with the call's source.

A call shall not use a facility that is controlled by ANF-RRC if, according to that facility's FRC, the call's RAC value is not entitled to use that facility.

NOTE — A call that cannot be progressed because its RAC value does not allow it to access facilities needed for routing can be released in accordance with ISO/IEC 11574. Other possible actions in this situation are outside the scope of this International Standard.

6.2.3 Exceptional procedures

6.2.3.1 Activation/Deactivation/Registration/Interrogation

Not applicable.

6.2.3.2 Invocation and operation

Not applicable.

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6.3 Interaction with other Supplementary Services and ANFs

Interactions with other supplementary services and ANFs for which PISN Standards were available at the time of publication of this International Standard are specified below.

ISO/IEC 13242:1997 (E) 98b-b1a6-d82657370b4b/iso-iec-13242-1997

6.3.1 Calling Line Identification Presentation (SS-CLIP)

No interaction.

6.3.2 Connected Line Identification Presentation (SS-COLP)

No interaction.

6.3.3 Calling/connected Line Identification Restriction (SS-CLIR)

No interaction.

6.3.4 Calling Name Identification Presentation (SS-CNIP)

No interaction.

6.3.5 Connected Name Identification Presentation (SS-CONP)

No interaction.

6.3.6 Calling/connected Name Identification Restriction (SS-CNIR)

No interaction.

6.3.7 Completion of Calls to Busy Subscriber (SS-CCBS)

No interaction.

6.3.8 Completion of Calls on No Reply (SS-CCNR)

No interaction.

6.3.9 Call Transfer (SS-CT)

No interaction.

6.3.10 Call Forwarding Unconditional (SS-CFU)

ANF-RRC can be used in the forwarding of a call as follows.

The diverted call may use either the RAC associated with the calling user or the RAC associated with the diverting user.

6.3.11 Call Forwarding Busy (SS-CFB)

As for SS-CFU (6.3.10).

6.3.12 Call Forwarding No Reply (SS-CFNR)

As for SS-CFU (6.3.10).

6.3.13 Call Deflection (SS-CD)

As for SS-CFU (6.3.10).

6.3.14 Path Replacement (ANF-PR)

An RAC shall be associated with the new connection in accordance with the call's source. The new connection shall not use a facility that is controlled by ANF-RRC if, according to that facility's FRC, the call's RAC value is not entitled to use that facility.

6.3.15 Call Offer (SS-CO)

No interaction.

6.3.16 Call Intrusion (SS-CI)

No interaction.

6.3.17 Do Not Disturb (SS-DND)

No interaction.

6.3.18 Do Not Disturb Override (SS-DNDO)

No interaction.

6.4 Interworking considerations

An RAC shall be associated with each incoming call from another network. This can either be a value supplied by the other network that supports an equivalent feature or a value assigned to the gateway.

The ability to establish an outgoing call to another network can be treated as a facility that is controlled by ANF-RRC.

When establishing an outgoing call to another network, the PISN may supply the other network with the call's RAC value if the other network supports an equivalent feature.