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SERIES Q: SWITCHING AND SIGNALLING, AND
ASSOCIATED MEASUREMENTS AND TESTS

Specifications of Signalling System No. 7 – ISDN
supplementary services

**Stage 3 description for number identification
supplementary services using Signalling
System No. 7 – Connected line identification
restriction**

Recommendation ITU-T Q.731.6

ITU-T



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Recommendation ITU-T Q.731.6

Stage 3 description for number identification supplementary services using Signalling System No. 7 – Connected line identification restriction

Summary

Recommendation ITU-T Q.731.6 provides a signalling procedure for connected line identification restriction (COLR). The Recommendation specifies service description, coding requirements and operation requirements of COLR. It also presents the signalling requirements for originating local exchange, transit exchange, international gateway exchange and destination local exchange. Interaction with other supplement services, interaction with other networks and dynamic description are also considered.

History

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COLP, COLR, number identification, procedure, Signalling System No. 7

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

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Recommendation ITU-T Q.731.6

Stage 3 description for number identification supplementary services using Signalling System No. 7 – Connected line identification restriction

1 Scope

This Recommendation provides signalling procedure for connected line identification restriction (COLR). It specifies service description, coding requirements and operation requirements of COLR. It also presents the signalling requirements for originating local exchange, transit exchange, international gateway exchange and destination local exchange. Interaction with other supplement services, interaction with other network and dynamic description are included as well.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T E.164] Recommendation ITU-T E.164 (2010), *The international public telecommunication numbering plan*.
- [ITU-T I.251.6] Recommendation ITU-T I.251.6 (Rev.1) (1995), *Number identification supplementary services: Connected Line Identification Restriction (COLR)*.
- [ITU-T Q.81.5] Recommendation ITU-T Q.81.5 (1991), *Stage 2 description for number identification supplementary services: Connected line identification, presentation and restriction (COLP) and (COLR)*.
- [ITU-T Q.730] Recommendation ITU-T Q.730 (1999), *ISDN User Part supplementary services*.
- [ITU-T Q.761] Recommendation ITU-T Q.761 (1999), *Signalling System No. 7 – ISDN User Part functional description*.
- [ITU-T Q.762] Recommendation ITU-T Q.762 (1999), *Signalling System No. 7 – ISDN User Part general functions of messages and signals*.
- [ITU-T Q.763] Recommendation ITU-T Q.763 (1999), *Signalling System No. 7 – ISDN User Part formats and codes*.
- [ITU-T Q.764] Recommendation ITU-T Q.764 (1999), *Signalling System No. 7 – ISDN User Part signalling procedures*.
- [ITU-T Q.951.6] Recommendation ITU-T Q.951.6 (1993), *Stage 3 description for number identification supplementary services using DSS 1: Connected line identification restriction*.

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Recommendation

This Recommendation defines the following term:

3.2.1 connected line identification restriction (COLR): A supplementary service offered to the connected party to restrict presentation of the connected party's ISDN-number, with additional address information (e.g., connected party sub-address) if any, to the calling party.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

3PTY	Three-Party service
AOC	Advice Of Charge
CCBS	Completion of Calls to Busy Subscriber
CD	Call Deflection
CFB	Call Forwarding Busy
CFNR	Call Forwarding No Reply
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
COL	Connected Line identity
COLP	Connected Line identification Presentation
COLR	Connected Line identification Restriction
CONF	Conference calling
CUG	Closed User Group
CW	Call Waiting
DDI	Direct Dialling-In
HOLD	call Hold
ISDN	Integrated Services Digital Network
ISUP	Integrated Services Digital Network User Part
LH	Line Hunting
MCID	Malicious Call Identification
MLPP	Multi-Level Precedence and Pre-Emption
MSN	Multiple Subscriber Number
PNP	Private Numbering Plan
PNX	Private Network exchange
REV	Reverse charging
SS	Signalling System
SUB	Sub-addressing
TP	Terminal Portability
UUS	User-to-User Signalling

UUS1	User-to-User Signalling, service 1
UUS2	User-to-User Signalling, service 2
UUS3	User-to-User Signalling, service 3

5 Conventions

None.

6 Connected line identification restriction

This Recommendation is to be read together with [ITU-T Q.731.5], which defines the COLP supplementary service. Only the procedures that can be clearly separated from the COLP supplementary service are indicated.

6.1 Description

6.1.1 General description

Connected line identification restriction (COLR) is a user facility offered to restrict the presentation of the COL to the calling party. The information that the called subscriber has the COLR facility is available at the call terminating exchange.

When COLR is applicable and activated the destination exchange shall provide the originating node with a notification that the connected user's ISDN number and any sub-address information is not allowed to be presented to the calling user. In this case the connected line identity shall be marked as presentation restricted, in the address presentation restricted indicator(s) of the connected number parameter field and the generic number parameter field (if present), when it is passed across the network. When COLR supplementary service is activated the connected number(s), and sub-address (if any), shall not be passed on to the calling access.

The presentation restriction function does not influence the forwarding of the connected number within the network as part of the basic service procedure.

The passing of restricted connected line identities between participating Administrations shall be subject to bilateral agreement.

The stage 1 definition for the COLR services is given in [ITU-T I.251.6]. The stage 2 description is contained in clause 6 of [ITU-T Q.81.5]. The stage 3 DSS 1 description is given in [ITU-T Q.951.6]. This stage 3 description of COLR uses the ISDN user part protocol as defined in [ITU-T Q.761], [ITU-T Q.764], and [ITU-T Q.730].

6.1.2 Specific terminology

In addition to the term defined in clause 3, this Recommendation uses the following specific terminology:

ISDN number – A number conforming to the numbering plan and structure specified in [ITU-T E.164].

Sub-address – See [ITU-T E.164].

Served access – It is the user of a particular ISDN number who has subscribed to the restriction of the connected line identification information in association with incoming calls. The served user may also be known as the connected user.

Calling access – It is the user that initiates an incoming call at the served user. The calling access need not have subscribed to the COLP supplementary service.

Default number – A national significant ISDN number registered within the public ISDN following prior arrangement between the connected access and the public ISDN.

Special arrangement – An arrangement between a customer and a public network operator whereby customer supplied connected numbers are not screened by the public network.

6.1.3 Qualification on the applicability to telecommunication services

See [ITU-T I.251.6].

6.1.4 State definitions

No specific state definitions are identified.

6.2 Operational requirements

6.2.1 Provision/withdrawal

See clause 3.1 of [ITU-T I.251.6].

6.2.2 Requirements on the originating network side

Not applicable.

6.2.3 Requirements in the network

No specific requirements are needed in the network.

6.2.4 Requirements on the terminating network side

Not applicable.

6.3 Coding requirements

See clause 6.3 of [ITU-T Q.731.5].

6.4 Signalling requirements

6.4.1 Activation/deactivation/registration

Not applicable.

6.4.2 Invocation and operation

6.4.2.1 Actions at the originating local exchange

6.4.2.1.1 Normal operation

If the connected party has subscribed to the COLR facility, the destination exchange will send the connected line identity to the originating exchange if requested, with an indication that the presentation is restricted (address presentation restricted indicator set to "presentation restricted").

This information is conveyed by the network in the connected number parameter field of the answer (ANM) or connect (CON) message. The service has no impact on the signalling procedures.

At the originating exchange, when a connected number is received in the ANM or CON message, the information will be passed on to the access signalling system.

It is a function of the user-network interface not to present the identification of the connected access to the calling access if the information is marked "presentation restricted".

6.4.2.1.2 Exceptional procedures

As a national option, the originating exchange can override the presentation restriction indication and the COL is then presented to the calling subscriber for specific calling access's categories (e.g., Police).

6.4.2.2 Actions at the transit exchange

6.4.2.2.1 Normal operation

No particular actions are required at intermediate exchanges. All information received regarding the COLR service will be passed on transparently.

6.4.2.2.2 Exceptional procedures

No exceptional procedures are identified.

6.4.2.3 Actions at the outgoing international gateway exchange

6.4.2.3.1 Normal operation

See clause 6.4.2.3.1 of [ITU-T Q.731.5].

6.4.2.3.2 Exceptional procedures

No exceptional procedures are identified.

6.4.2.4 Actions at the incoming international gateway exchange

6.4.2.4.1 Normal operation

If the address presentation restricted indicator of the received connected number parameter field is set to "presentation restricted", the destination international gateway exchange shall act according to the bilateral agreement between the two networks. If the connected number parameter field is not sent across the international section, then the generic number parameter field shall be omitted from the ANM or the CON messages if its number qualifier indicates "additional connected number".

At the international boundary, the destination gateway can remove the COL if it cannot be released to the originating network and change the address presentation restricted indicator, set to "presentation restricted", into "address not available".

6.4.2.4.2 Exceptional procedures

No exceptional procedures identified.

6.4.2.5 Actions at the destination local exchange

6.4.2.5.1 Normal operation

When COLR is applicable and activated the destination exchange provides the originating local exchange with a notification that the connected access's ISDN number and any sub-address information is not allowed to be presented to the calling access.

The destination local exchange shall set the address presentation restriction indicator of the connected number parameter field and that of the generic number parameter field (if applicable) to the value as asked for by the access signalling system of the connected user.

Any additional address information provided by the connected party, e.g., connected party sub-address, will also be subject to the COLR supplementary service as indicated in the address presentation restriction indicator in the connected number parameter, and the generic number parameter.

6.4.2.5.2 Exceptional procedures

No exceptional procedures identified.

6.5 Interaction with other supplementary services

6.5.1 Call waiting (CW)

No impact on ISUP.

6.5.2 Call transfer services

No applicable interaction at this time.

6.5.3 Connected line identification presentation (COLP)

COLR will take precedence over COLP.

The only occasion when a user subscribing to connected line identification presentation can take precedence over connected line identification restriction is when the user has an override category. This is a national option.

6.5.4 Connected line identification restriction (COLR)

Not applicable.

6.5.5 Calling line identification presentation (CLIP)

No impact on ISUP.

6.5.6 Calling line identification restriction (CLIR)

No impact on ISUP.

6.5.7 Closed user group (CUG)

No impact on ISUP.

6.5.8 Conference calling (CONF)

No impact on ISUP.

6.5.9 Direct dialling-in (DDI)

No impact on ISUP.

6.5.10 Call diversion services

6.5.10.1 Call forwarding busy (CFB)

No impact on ISUP.

6.5.10.2 Call forwarding no reply (CFNR)

No impact on ISUP.

6.5.10.3 Call forwarding unconditional (CFU)

No impact on ISUP.

6.5.10.4 Call deflection (CD)

No impact on ISUP.

6.5.11 Line hunting (LH)

No impact on ISUP.

6.5.12 Three party service (3PTY)

No impact on ISUP.

6.5.13 User-to-user signalling (UUS)

6.5.13.1 User-to-user signalling, service 1 (UUS1)

No impact on ISUP.

6.5.13.2 User-to-user signalling, service 2 (UUS2)

No impact on ISUP.

6.5.13.3 User-to-user signalling, service 3 (UUS3)

No impact on ISUP.

6.5.14 Multiple subscriber number (MSN)

No impact on ISUP.

6.5.15 Call hold (HOLD)

No impact on ISUP.

6.5.16 Advice of charge (AOC)

No impact on ISUP.

6.5.17 Sub-addressing (SUB)

No impact on ISUP.

6.5.18 Terminal portability (TP)

No impact on ISUP.

6.5.19 Completion of calls to busy subscriber (CCBS)

No applicable interaction at this time.

6.5.20 Malicious call identification (MCID)

No impact on ISUP.

6.5.21 Reverse charging (REV)

No applicable interaction at this time.

6.5.22 Multi-level precedence and preemption (MLPP)

No impact on ISUP.

6.5.23 Private numbering plan (PNP)

No applicable interaction at this time.

6.5.24 Charge card

No applicable interaction at this time.

6.6 Interaction with other networks

When a call originates in one ISDN network and terminates in another ISDN network and COLR is applicable, the rules and regulations of the originating (host) network shall apply.

For example, if an override category is not available in the destination network but is available in the originating network, the originating network can still override the presentation restriction whenever COL is available at this network.

As a national option, the destination network can restrict the COL to the originating network if COLR is applicable.

For internetwork calls, when the COLR supplementary service is invoked, the destination network shall provide the originating network with a notification that the ISDN number of the connected party and the sub-address information (if any) is not allowed to be presented to the calling access.

6.7 Signalling flows

The dynamic description for the COLR supplementary service is contained in the COLP supplementary service.

6.8 Parameter value (timers)

No specific timers are required.

6.9 Dynamic description

See clause 6.9 of [ITU-T Q.731.5].

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