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**Digital cellular telecommunications system (Phase 2+) (GSM);
Universal Mobile Telecommunications System (UMTS);
LTE;
Originating Identification Presentation (OIP)
and Originating Identification Restriction (OIR)
using IP Multimedia (IM) Core Network (CN) subsystem;
Protocol specification
(3GPP TS 24.607 version 17.0.0 Release 17)**

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Contents

Foreword

This Technical Specification (TS) was been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN) and originally published as ETSI TS 183 007 [14]. It was transferred to the 3rd Generation Partnership Project (3GPP) in January 2008.

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1 Scope

The present document specifies the stage three (protocol description) of the Originating Identification Presentation (OIP) supplementary service and the Originating Identification Restriction (OIR) supplementary services, based on stage one and two of the ISDN CLIP [4] and CLIR [5] supplementary service. It provides the protocol details in the IP Multimedia (IM) Core Network (CN) subsystem based on the Session Initiation Protocol (SIP) and the Session Description Protocol (SDP).

NOTE: It can be noted that the behaviour described in this the present document does not take into account other behaviours that is specified in other applications and care needs to be taken when designing the filters etc. when two or more applications are involved in a session.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TS 23.002: "Network architecture".

[2] 3GPP TS 23.228: "IP multimedia subsystem; Stage 2".

[3] 3GPP TS 24.229: "IP Multimedia Call Control Protocol based on SIP and SDP".

[4] ETSI EN 300 089 V3.1.1: "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Service description".

[5] ETSI EN 300 090 V1.2.1: "Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Service description".

[6] IETF RFC 3323: "A Privacy Mechanism for the Session Initiation Protocol (SIP)".

[7] IETF RFC 3325: "Private Extensions to the Session Initiation Protocol (SIP) for Network Asserted Identity within Trusted Networks".

[8] IETF RFC 2396: "Uniform Resource Identifiers (URI): Generic Syntax".

[9] IETF RFC 3966: "The tel URI for Telephone Numbers".

[10] IETF RFC 3261: "SIP: Session Initiation Protocol".

[11] Void

[12] ITU-T Recommendation I.210: "Principles of telecommunication services supported by an ISDN and the means to describe them ".

[13] 3GPP TS 24.623: "Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating Supplementary Services".

[14] ETSI TS 183 007 V1.3.0: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR); Protocol specification"

[15] 3GPP TS 24.238: "Session Initiation Protocol (SIP) based user configuration; stage 3"

[16] IETF RFC 4825: "The Extensible Markup Language (XML) Configuration Access Protocol (XCAP)".

[17] 3GPP TS 24.417: "Management Object (MO) for Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR) using IP Multimedia (IM) Core Network (CN) subsystem; Stage 3".

[18] 3GPP TS 24.196: "Technical Specification Group Core Network and Terminals; Enhanced Calling Name".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

Call Session Control Function (CSCF): See 3GPP TS 23.002 [1].

dialog: See IETF RFC 3261 [10].

header: See IETF RFC 3261 [10].

header field: See IETF RFC 3261 [10].

identity information: all the information identifying a user, including trusted (network generated) and/or untrusted (user generated) addresses

NOTE: Identity information takes the form of either a SIP URI (see IETF RFC 2396 [8]) or a "tel" URI (see IETF RFC 3966 [9]).

incoming initial request: all requests intended to initiate either a dialog or a standalone transaction terminated by the served user

Interconnection Border Control Function (IBCF): See 3GPP TS 23.228 [2].

Media Gateway Control Function (MGCF): See 3GPP TS 23.002 [1].

originating UE: sender of a SIP request intended to initiate either a dialog (e.g. INVITE, SUBSCRIBE), or a standalone transaction

EXAMPLE: OPTIONS, MESSAGE.

outgoing (communication): communication outgoing from the user side of the interface

outgoing initial request: all requests intended to initiate either a dialog or a standalone transaction received from the served user

private information: information that according to IETF RFC 3323 [6] and IETF RFC 3325 [7] is not permitted to be delivered to the remote end.

proxy: See IETF RFC 3261 [10].

Proxy-CSCF (P-CSCF): See 3GPP TS 23.228 [2].

public user identity: See 3GPP TS 23.228 [2].

request: See IETF RFC 3261 [10].

response: See IETF RFC 3261 [10].

Serving-CSCF (S-CSCF): See 3GPP TS 23.228 [2].

session: See IETF RFC 3261 [10].

standalone transaction: SIP transaction that is not part of a dialog and does not initiate a dialog

NOTE: An OPTIONS or a MESSAGE request sent outside of a SIP dialog would be considered to be part of a standalone transaction.

supplementary service: See ITU-T Recommendation I.210 [12], clause 2.4.

tag: See IETF RFC 3261 [10].

terminating UE: recipient of a SIP request intended either to initiate a dialog or to initiate either a dialog or a standalone transaction

trusted identity information: network generated user public identity information

(SIP) transaction: See IETF RFC 3261 [10].

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AS	Application Server
CCBS	Completion of Communication to Busy Subscriber
CDIV	Communication DIVersion
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
CSCF	Call Session Control Function
CW	Communication Waiting
HOLD	communication Hold
IBCF	Interconnection Border Control Function
ICB	Incoming Communication Barring
IFC	Initial Filter Criteria
IM	IP Multimedia
IMS	IP Multimedia Subsystem
IP	Internet Protocol
ISDN	Integrated Service Data Network
MCID	Malicious Communication IDentification
MGCF	Media Gateway Control Function
MiD	Multi-iDentity
MuD	Multi-Device
NGN	Next Generation Network
OIP	Originating Identification Presentation
OIR	Originating Identification Restriction
P-CSCF	Proxy-CSCF
PSTN	Public Switched Telephone Network
S-CSCF	Serving-CSCF
SDP	Session Description Protocol
SIP	Session Initiation Protocol
UE	User Equipment
URI	Universal Resource Identifier

4 Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR)

4.1 Introduction

The Originating Identification Presentation (OIP) service provides the terminating user with the possibility of receiving identity information in order to identify the originating user.

The Originating Identification Restriction (OIR) service enables the originating user to prevent presentation of its identity information to the terminating user.

4.2 Description

4.2.1 General description

The OIP service provides the terminating user with the possibility of receiving trusted (i.e. network-provided) identity information in order to identify the originating user.

In addition to the trusted identity information, the identity information from the originating user can include identity information generated by the originating user and in general transparently transported by the network. In the particular case where the "no screening" special arrangement does not apply, the originating network shall verify the content of this user generated identity information. The terminating network cannot be responsible for the content of this user generated identity information.

The OIR service is a service offered to the originating user. It restricts presentation of the originating user's identity information to the terminating user.

When the OIR service is applicable and activated, the originating network provides the destination network with the indication that the originating user's identity information is not allowed to be presented to the terminating user. In this case, no originating user's identity information shall be included in the requests sent to the terminating user. The presentation restriction function shall not influence the forwarding of the originating user's identity information within the network as part of the supplementary service procedures.

4.3 Operational requirements

4.3.1 Provision/withdrawal

4.3.1.1 OIP Provision/withdrawal

The OIP service may be provided after prior arrangement with the service provider or be generally available.

The OIP service shall be withdrawn at the subscriber's request or for administrative reasons.

As a general operator policy a special arrangement may exist on a per subscriber basis or on a general behaviour basis whereby the originating user's identity information intended to be transparently transported by the network is not screened by the network.

4.3.1.2 OIR Provision/withdrawal

The OIR service, temporary mode, may be provided on a subscription basis or may be generally available.

The OIR service, permanent mode, shall be provided on a subscription basis.

As a network option, the OIR service can be offered with several subscription options. A network providing the OIR service shall support temporary mode at a minimum. Subscription options are summarized in table 1.

Table 1: OIR Subscription options

Subscription option values	Values
Mode	- permanent mode (active for all requests) - temporary mode (allows the UE to override the default behaviour on per call basis)
Temporary mode default	- presentation restricted - presentation not restricted
Restriction	- restrict the asserted identity - restrict all private information appearing in headers

4.3.2 Requirements on the originating network side

As part of the basic communication procedures specified in 3GPP TS 24.229 [3], the following requirements apply at the originating network side in support of the OIP service and the OIR service. Unless noted otherwise, these requirements are meant to apply to all requests meant to initiate either a dialog or a standalone transaction. These procedures apply regardless of whether the originating or terminating parties subscribe to the OIP service or the OIR service:

1 The originating UE can insert two forms of identity information that correspond to the following two purposes:

As a suggestion to the network as to what public user identity the network should be included in the request as network asserted identity information.

As a UE-provided identity to be transparently transported by the network.

2 In the case where no identity information is provided by the originating UE for the purpose of suggesting a network-provided identity, the network shall include identity information based on the default public user identity associated with the originating UE.

3 In the case where identity information is provided by the originating UE for the purpose of suggesting a network-provided identity, the network shall attempt to match the information provided with the set of registered public identities of the originating UE. If a match is found, the network shall include an identity based on the information provided by the originating UE.

As a network option, if the "no screening" special arrangement does not exist with the originating UE, the network may attempt to match the UE-provided identity information with the set of registered public identities of the originating user. If a match is not found, the network shall replace the UE-provided identity with one that includes the default public user identity.

The UE can include an indication that it wishes to have the presentation of its identity information to be restricted. The following cases exist:

- If the originating user has subscribed to the OIR service in the permanent mode, then the network shall invoke the OIR service for each outgoing request.

- If the originating user has subscribed to the OIR service in the temporary mode with default value "presentation restricted", then the network shall invoke the OIR service for each outgoing request unless the default value is overridden by subscriber request at the time of outgoing request.

- If the originating user has subscribed to the OIR service in the temporary mode with default value "presentation not restricted", then the network shall only invoke the OIR service if requested by the subscriber at the time of outgoing initial request.

- If the originating user has not subscribed to the OIR service but the originating UE sends a SIP request initiating a dialog or standalone transaction with Privacy header fields indicating a privacy request or a digit sequence within the Request-URI that comprise the effective dial string for restricting the presentation of identity information then, the SIP request may be rejected by operator policy.

NOTE 1AA: Only when supporting the MMTEL for the OIP/OIR Service such a procedure is possible. This requires an initial filter criterion to be setup for the user who is not subscribed to the OIR service.

- If the OIR service is not invoked, the network-provided identity shall be considered to be presentation allowed.