

8.6(1) Call Detail Record Addendum

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IP Multimedia Subsystem (IMS) Application Server Feature

CUCM can be positioned as an IMS application server to provide various features that are currently part of CUCM mobility functions. As part of this feature, the P-Charging-Vector header is defined by 3GPP to correlate charging records generated from different entities that are related to the same session. It contains the following parameters: IMS Charging ID: ICID and InterOperator Identifier: IOI.

The IOI identifies both originating and terminating networks involved in a session/transaction. The orig-ioi and term-ioi parameters represent, respectively, the originating and terminating interoperator identifiers. They are used to correlate charging records between different operators. The originating ioi represents the network responsible for the charging records in the originating part of the session or standalone request. Similarly, the terminating ioi represents the network responsible for the charging records in the terminating part of the session or standalone request.

The CDR has 6 new fields added for this feature: 3 for each side of the call. The new fields are:

IncomingICID, IncomingOrigIOI, IncomingTermIOI, OutgoingICID, OutgoingOrigIOI, OutgoingTermIOI

Field Name	Range of Values	Description
IncomingICID	Text String	Alphanumeric string up to 50 characters This field is populated with the IMS Identifier(ICID) from the P-Charging Vector at the incoming call leg of the call. This field will be empty when the call leg has no IMS or SIP trunk with P-Charging-Vector enabled. Default = Empty String “ “
IncomingOrigIOI	Text String	Alphanumeric string up to 50 characters This field is populated with the originating Interoperator Identifier(IOI) from the P-Charging Vector at the incoming call leg of the call. This field will be empty when the call leg has no IMS or SIP trunk with P-Charging-Vector enabled. Default = Empty String “ “
IncomingTermIOI	Text String	Alphanumeric string up to 50 characters This field is populated with the terminating Interoperator Identifier(IOI) from the P-Charging Vector at the incoming call leg of the call. This field will be empty when the call leg has

Field Name	Range of Values	Description
		no IMS or SIP trunk with P-Charging-Vector enabled. Default = Empty String “ “
OutgoingICID	Text String	Alphanumeric string up to 50 characters This field is populated with the IMS Identifier(ICID) from the P-Charging Vector at the outgoing call leg of the call. This field will be empty when the call leg has no IMS or SIP trunk with P-Charging-Vector enabled. Default = Empty String “ “
OutgoingOrigIOI	Text String	Alphanumeric string up to 50 characters This field is populated with the originating Interoperator Identifier(IOI) from the P-Charging Vector at the outgoing call leg of the call. This field will be empty when the call leg has no IMS or SIP trunk with P-Charging-Vector enabled. Default = Empty String “ “
OutgoingTermIOI	Text String	Alphanumeric string up to 50 characters This field is populated with the terminating Interoperator Identifier(IOI) from the P-Charging Vector at the outgoing call leg of the call. This field will be empty when the call leg has no IMS or SIP trunk with P-Charging-Vector enabled. Default = Empty String “ “
outpulsedOriginalCalledPartyNumber	Text String	Alphanumeric string up to 50 characters. The Original called party number outpulsed from the device. Refer to section on Redirecting Number Transformation for details. Default – empty string “” or null.
outpulsedLastRedirectingNumber	Text String	Alphanumeric string up to 50 characters. The Last Redirecting number outpulsed from the device. Refer to section on Redirecting

Field Name	Range of Values	Description
		Number Transformation for details. Default – empty string “” or null.

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IMS A with calls IMS B through CUCM.

The incoming invite to CUCM contains:

Icid: 5802170000010000000000A85552590A (say, PCV1) and
 orig_ioi: rcdn-85.swyan.open-ims.test (say, IOI_1).

The INVITE from the CUCM to IMS B will have the same icid as 5802170000010000000000A85552590A (PCV1),

orig_ioi as rcdn-85.swyan.open-ims.test (IOI_1).

When B answers, 200 OK to CUCM will have icid as 5802170000010000000000A85552590A (PCV1),

orig_ioi as rcdn-85.swyan.open-ims.test (IOI_1),

and term_ioi, rcdn-86.swyan.open-ims.test (IOI_2)

There could be extra fields with this 200 OK.

The 200 OK from CUCM to IMS A will have icid 5802170000010000000000A85552590A (PCV1)

orig_ioi as rcdn-85.swyan.open-ims.test (IOI_1) and

term_ioi as rcdn-86.swyan.open-ims.test (IOI_2)

The extra fields in the 200 OK will be passed to IMS A.

<i>CDR</i>	<i>Side A</i>			<i>Side B</i>		
<i>parties</i>	<i>icid</i>	<i>orig_ioi</i>	<i>term_ioi</i>	<i>icid</i>	<i>orig_ioi</i>	<i>term_ioi</i>
A-B	PCV1	IOI_1	IOI_2	PCV1	IOI_1	IOI_2

FieldNames	Values
globalCallID_callId	3
origLegCallIdentifier	300
destLegCallIdentifier	301
origDeviceName	CUCM_ISC_TRUNK1
destDeviceName	CUCM_ISC_TRUNK2
IncomingICID	5802170000010000000000A85552590A
IncomingOrigIOI	rcdn-85.swyan.open-ims.test
IncomingTermIOI	rcdn-86.swyan.open-ims.test
OutgoingICID	5802170000010000000000A85552590A

OutgoingOrigIOI	rcdn-85.swyan.open-ims.test
OutgoingTermIOI	rcdn-86.swyan.open-ims.test

Refer to section

8.2.6 P-Charging Vector

In Morpheus Release IMS ISC Interface: FFS: EDCS-993643

For more examples on this feature.

1.1 Redirecting Number Transformation

When Redirecting number transformation feature is enabled, original called and last redirecting number are transformed before sending out in outgoing setup message.

Here is one example :

CCM1 – Phone A [180000] , Phone B [180001] , Phone C [180002]

SIP Trunk is configured on CCM1 pointing to SIP Gateway.

Phone B has external mask set as +9111XXXX

Phone C has external mask set as +9122XXXX

On SIP Trunk , redirecting party CSS is configured which has the partitions P1 and there is a Calling Party transformation pattern associated with P1. This pattern has External phone number mask enabled.

Scenario :

A – calls Phone B ---- CFA – Phone C CFA --- SIP Trunk --- SIP Gateway.

B → Original Called Party

C → Last Redirecting Party

There are 2 diversion headers [corresponding to original and last redirecting party] sent out in outgoing SIP INVITE message and these diversion headers have transformed redirecting number i.e. +91110001 and +91220002.

These values are also stored in CDR records. Transformed original called number will be stored in outpulsedOriginalCalledPartyNumber and transformed last redirecting number will be stored in outpulsedLastRedirectingNumber.

CDR will be as seen below:

FieldNames	Values
globalCallID_callId	115010
origLegCallIdentifier	30751507
callingPartyNumber	180000
outpulsedCallingPartyNumber	880003
outpulsedOriginalCalledPartyNumber	+91110001
outpulsedLastRedirectingNumber	+91220002