

SimWriter Testing Dial Plan for the Cisco PGW 2200

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Introduction

While you create a dial plan and then test it out, there is no way to verify how a call runs through a dial plan on the Cisco PGW 2200. At this time, you need to make a test call and run a full MDL trace on the call. When you look at the traces, they are verbose and complicated to understand. For this reason, the SimWriter under the /opt/CiscoMGC/bin directory is an easier trace to understand. The Translation Verification tool provides you with a means to understand how calls are processed based on your system's dial plan. This tool creates a simulation of a call that is processed by the dial plan.

Prerequisites

Requirements

Readers of this document should have knowledge of these topics:

- [Cisco Media Gateway Controller Release 9](#)

Components Used

The information in this document is based on the Cisco PGW 2200 SoftSwitch.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the [Cisco Technical Tips Conventions](#).

Cisco PGW 2200 SimWriter

In order to view the latest SimWriter help options, go to the /opt/CiscoMGC/bin directory and run either the **SimWriter** command or the **simWriter help** command on the command line. The **-help** parameter provides you with the help description of each argument. This document only focuses on some of these arguments. If you want to use this in a graphical situation, run the **MGC_Toolkit**

command under directory /opt/Toolkit/bin via X-windows. This contains a built in Translation Verification section. Also, use the **SimWriter** command.

Currently, when you issue the **./MGC_Toolkit** command under the /opt/Toolkit/bin directory, you receive this information:



Select the **Translation Verification** option to display this window:

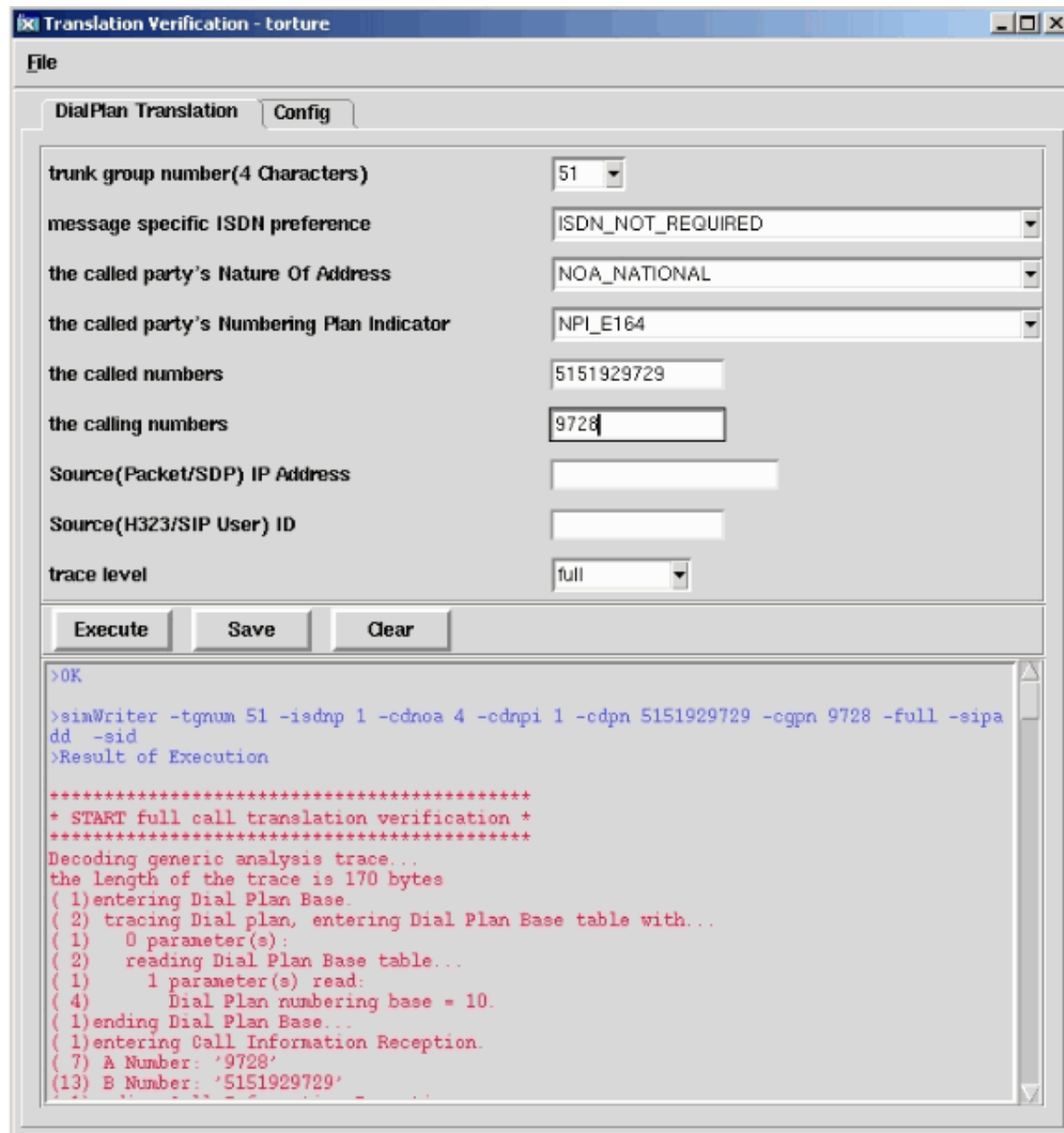


Table 1: SimWriter Help Output Information

Option String	Argument	Argument Type	Description

-tgnum	Trunk Group Number	4 digits	This option is mandatory. It specifies the trunk group number that the call comes in on. The specified trunk group is then used to find out all the stored information about the customer and their preferences from the .dat files.
-full	<none>	<none>	Indicates to SimWriter and callver that a full trace is desired. Under this mode, a more detailed trace is printed. See the Callver Output section for a detailed description of this format.
-diag	<none>	<none>	Indicates to SimWriter and callver that a diagnostic trace is desired. Under this mode all the results are printed, but all the table information is left out. See the Callver Output section for a detailed description of this format.

-isdpn	ISDP Preference Enumerated Code	Digits	Specifies an ISDN preference to use while you select an outgoing route. This preference is the one that is included in the initial address message. There is an additional route preference that is picked up from the .dat files using the originating trunk group. The possible values are listed in Table 2 .
-cdnoa	Nature of Address (NOA) of the Called Party	Digits	An enumerated number that represents the Called Party's NOA. This is the number that corresponds with the values of the NOAs in the Call Context. See Table 3 for NOA types and their integer values.
-cdnpi	Called Party's Numbering Plan Indicator (NPI)	Digits	An enumerated number that represents the NOA of the Called Party. This is the number that corresponds with the values of the NPIs in the Call Context. See Table 4 for NPI types and their integer values.

-cdpn	Called Party Number	String of digits	This is the Called Party Number. Currently, the dial plan only supports digits 0 through 9. Therefore, no hex digits are allowed.
-cgnoa	NOA of the Calling Party	Digits	An enumerated number that represents the NOA of the Calling Party. This is the number that corresponds with the values of the NOAs in the Call Context.
-cgnpi	NPI of the Calling Party	Digits	An enumerated number that represents the NOA of the Calling Party. This is the number that corresponds with the values of the NPIS in the Call Context.
-cgpn	Calling Party Number	String of digits	This is the Calling Party Number. Currently, the dial plan only supports digits 0 through 9. No hex digits are allowed.

Table 2: Integer Values for ISDN

ISDN Type	Integer Values
CLASS_ISDN_PREFERRED	0
CLASS_ISDN_NOT_REQUIRED DEFAULT	1
CLASS_ISDN_REQUIRED	2

Table 3: Integer Values for NOA

NOA Type	Integer Value
NOA_NONE	1

NOA_UNKNOWN	2
NOA_SUBSCRIBER	3
NOA_NATIONAL	4
NOA_INTERNATIONAL	5
NOA_NETWORK	6
NOA_MERIDIAN	7
NOA_ABBR	8
NOA_UNIQUE_3DIG_NAT_NUM	9
NOA_ANI	10
NOA_NO_ANI_REC'D	11
NOA_NON_UNIQUE_SUBSCRIBER	12
NOA_NON_UNIQUE_NATIONAL	13
NOA_NON_UNIQUE_INTERNATIONAL	14
NOA_OPRREQ_TREATED	15
NOA_OPRREQ_SUBSCRIBER	16
NOA_OPRREQ_NATIONAL	17
NOA_OPRREQ_INTERNATIONAL	18
NOA_OPRREQ_NO_NUM	19
NOA_CARRIER_NO_NUM	20
NOA_950_CALL	21
NOA_TEST_LINE_CODE	22
NOA_INT_INBOUND	23
NOA_NAT_OR_INTL_CARRIER_ACC_CODE_INC	24
NOA_CELL_GLOBAL_ID_GSM	25
NOA_CELL_GLOBAL_ID_NMT_900	26
NOA_CELL_GLOBAL_ID_NMT_450	27
NOA_CELL_GLOBAL_ID_AUTONET	28
NOA_PORTED_NUMBER	29
NOA_PISN_SPECIFIC_NUMBER	30
NOA_UK_SPECIFIC_ADDRESS	31
NOA_SPARE	32
NOA_SUBSCRIBER_OPERATOR_REQUESTED	33
NOA_NATIONAL_OPERATOR_REQUESTED	34
NOA_INTERNATIONAL_OPERATOR_REQUESTED	35
NOA_NO_NUMBER_PRESENT_OPERATOR_REQUESTED	36
NOA_NO_NUMBER_CUT_THROUGH_TO_CARRIER	37
NOA_950_PUBLIC_HOTEL_LINE	38

NOA_TEST_CALL	39
NOA_MCI_VNET	40
NOA_INTERNATIONAL_OPERATOR_TO_OPERATOR_OUTSIDE_WZI	41
NOA_INTERNATIONAL_OPERATOR_TO_OPERATOR_INSIDE_WZI	42
NOA_DIRECT_TERMINATION_OVERFLOW	43
NOA_ISN_EXTENDED_INTERNATIONAL_TERMINATION	44
NOA_TRANSFER_ISN_TO_ISN	45
NOA_CREDIT_CARD	46
RESERVED	47

Table 4: Integer Values for NPI

NPI Type	Integer Values
NPI_NONE	0
NPI_E164_DEFAULT	1
NPI_DATA	2
NPI_TELEX	3
NPI_PNP	4
NPI_NATIONAL	5
NPI_TELEPHONY	6
NPI_MARITIME_MOBILE	7
NPI_LAND_MOBILE	8
NPI_ISDN_MOBILE	9

SimWriter Usage Example

In this example, a TDM hairpinning call is made via the PGW 2200 to the NAS. First, look via SimWriter in order to see if the Cisco PGW 2200 dial plan reports any errors at the moment that the PGW 2200 is incorrectly provisioned.

Note: Due to some modification on SimWriter, Cisco recommends that you upgrade the PGW to the latest patches. Check the for additional information. Also make sure you see `engine.SysVirtualSwitch = 1` in the `XECfgParm.dat` file in the `/opt/CiscoMGC/etc` directory and that the `CALLVER*.mdos` are installed under the `/opt/CiscoMGC/lib` directory. Refer to Cisco bug ID [CSCee18831](#) ([registered](#) customers only) which addresses how SimWriter should be able to capture all property driven changes.

This example removes the first two digits from the B-number and reroutes the call back out on route51. The `BMODDIG` result type has a `"dw=1"` and `"dw=2"`, which indicates to start removing beginning with the first digit of the B-number, and deleting the first two digits [`dw=2`].

```
numan-add:resultset:custgrpid="sw01",name="rset51"
```

```
numan-add:resulttable:custgrpid="sw01",name="strip51",resulttype="BMODDIG",
dw1="1",dw2="2",setname="rset51"
```

```
numan-add:resulttable:custgrpid="sw01",name="route51",resulttype="ROUTE",
dw1="rtgrp51",setname="rset51"
```

After you add the **BMODDIG** and **ROUTE** mml commands, and issuing the mml commands **prov-cpy** or **prov-dply**, you can check the configuration using the **prov-rtrv** and **numan-rtrv** commands.

PGW2200 mml>**prov-rtrv:trnkgrp:"all"**

MGC-01 - Media Gateway Controller 2004-02-02 18:51:34.983 WET

M RTRV

"session=UnsolNot_On17:trnkgrp"

/*

NAME	CLLI	SVC	TYPE	SELSEQ	QABLE
51	NULL	ss7-bru8	TDM_ISUP	LIDL	N

*/

;

PGW2200 mml>**numan-rtrv:bdigtree:custgrpId="sw01",callside="originating"**

MGC-01 - Media Gateway Controller 2004-02-02 18:54:31.632 WET

M RTRV

"session=UnsolNot_On17:bdigtree"

/*

digitString	callSide
-----	-----
	originating

PointInDigitString

51

ResultSetName

rset51

resultName	resultType	dw1	dw2	dw3	dw4	nextResult
-----	-----	---	---	---	---	-----
strip51	BMODDIG	1	2	0	0	route51
route51	ROUTE	rtgrp51	0	0	0	0

In this case, you can either make a test call and check the correct working or, check the output of the SimWriter to see if any error messages have been reported.

If you do not remember the simWriter argument, use a prompt interface instead of the command-line as this output shows:

```
mgcusr@PGW2200%simWriter -prompt
Enter the trunk group number (4 Characters)      : 51
Enter the ISDN preference (0-2 [Default 1])      :
Enter the Called party's NOA (1-47 [Default 4])  : 4
Enter the Called party's NPI(0-9 [Default 1])    : 1
Enter the Called party number                    : 5151929729
Enter the Calling party number                   : 9727
```

You can also choose to directly use the command-line as this output shows:

*!--- This command has been wrapped to the second
!--- line for spatial reasons.*

```
mgcusr@PGW2200% simWriter -tgnum 51 -isdnp 0 -cdnoa 4 -cdnpi 1 -cdpn  
5151929729 -cgpn 9727 -full -sipadd -sid
```

Analyzing .dat files:

```
used default Route Preference
used default Terminating Max Digits
used default Terminating Min Digits
used default Originating Min Digits
used default Originating Max Digits
```



```
used default Carrier Screening property
used default Anumnormalise property
used default Bnumnormalise property
used default Enable IP Screening property
used default NPA
used default AOCEnabled field
used the default field for default directory number
used the default Database Access Error flag
Analysis complete, writing message...
Message completed, running simulator...
*****
* START full call translation verification *
*****
Decoding generic analysis trace...
the length of the trace is 170 bytes
( 1)entering Dial Plan Base.
( 2) tracing Dial plan, entering Dial Plan Base table with...
( 1) 0 parameter(s):
( 2) reading Dial Plan Base table...
( 1) 1 parameter(s) read:
( 4) Dial Plan numbering base = 10.
( 1)ending Dial Plan Base...
( 1)entering Call Information Reception.
( 7) A Number: '9727'
(13) B Number: '5151929729'
( 1)ending Call Information Reception...
( 1)entering Profile Analysis (NOA).
(13) Tracing call number: '5151929729' (Called party number)
( 7) Trace for customer: 'sw01'
( 5) TreeBase: '10'
( 2) tracing Dial plan, entering NOA_A table with...
( 1) 1 parameter(s):
( 4) NOA_A table index = 4.
( 2) reading NOA_A table...
( 1) 2 parameter(s) read:
( 4) NPI_A index = 0.
( 4) Result index = 0.
( 2) tracing Dial plan, entering CPC table with...
( 1) 1 parameter(s):
( 4) CPC table index = 9.
( 2) reading CPC table...
( 1) 1 parameter(s) read:
( 4) Result Index = 0.
( 2) tracing Dial plan, entering TMR table with...
( 1) 1 parameter(s):
( 4) TMR table index = 78.
( 2) reading TMR table...
( 1) 1 parameter(s) read:
( 4) Result Index = 0.
( 2) tracing Dial plan, entering NOA table with...
( 1) 1 parameter(s):
( 4) NOA table index = 4.
( 2) reading NOA table...
( 1) 2 parameter(s) read:
( 4) NPI index = 0.
( 4) Result index = 0.
( 2) tracing Dial plan, entering Result table with...
( 1) 1 parameter(s):
```

```
( 4)      Result table index = 0.
( 1)ending Profile Analysis (NOA)...
( 1)entering A-Number Analysis.
( 7) Tracing call number: '9727' (Calling party number)
( 7) Trace for customer: 'sw01'
( 2) tracing Dial plan, entering A-Number digit tree table with...
( 1)   1 parameter(s):
( 4)     A-Number digit tree index = 1 (starting index table)
( 2)   reading A-Number digit tree table...
( 1)     3 parameter(s) read:
( 4)       Digit to present = 0.
( 4)       Next tree index = 0.
( 4)       Result index = 0.
-----break in message reached-----
Decoding generic analysis trace...
the length of the trace is 206 bytes
( 2) tracing Dial plan, entering A-Number digit tree table with...
( 1)   1 parameter(s):
( 4)     A-Number digit tree index = 10 (table: 2 / digit: '-1')
( 2)   reading A-Number digit tree table...
( 1)     3 parameter(s) read:
( 4)       Digit to present = 0.
( 4)       Next tree index = 0.
( 4)       Result index = 0.
( 1)ending A-Number Analysis...
( 1)entering B-Number Analysis.
(13) Tracing call number: '5151929729' (Called party number)
( 7) Trace for customer: 'sw01'
( 2) tracing Dial plan, entering B-Number digit tree table with...
( 1)   1 parameter(s):
( 4)     B-Number digit tree index = 1 (starting index table)
( 2)   reading B-Number digit tree table...
( 1)     3 parameter(s) read:
( 4)       Digit to present = 0.
( 4)       Next tree index = 0.
( 4)       Result index = 0.
( 2) tracing Dial plan, entering B-Number digit tree table with...
( 1)   1 parameter(s):
( 4)     B-Number digit tree index = 6 (table: 1 / digit: '5')
( 2)   reading B-Number digit tree table...
( 1)     3 parameter(s) read:
( 4)       Digit to present = 0.
( 4)       Next tree index = 4.
( 4)       Result index = 0.
( 2) tracing Dial plan, entering B-Number digit tree table with...
( 1)   1 parameter(s):
( 4)     Route table index = 1.
( 4)     Next route index = 0.
( 4)     Route Size = 1.
( 4)     Distribution (0=Sequential, else=Load Shared) = 0.
( 1)ending Route Analysis...
( 1)entering Trunk Group Analysis.
( 2) tracing Routing plan, entering Trunk route table with...
( 1)   2 parameter(s):
( 4)     Trunk route table index = 1.
( 4)     Trunk route table offset = 1.
( 2)   reading Trunk route table...
( 1)     1 parameter(s) read:
```

```

( 4)      Trunk group table index = 1.
( 2) tracing Routing plan, entering Trunk group table with...
( 1)      1 parameter(s):
( 4)      Trunk group table index = 1.
( 2)      reading Trunk group table...
( 1)      3 parameter(s) read:
( 4)      Trunk group ID = 51.
( 4)      Signalling type = 1.
( 4)      Attributes table index = 1.
( 2) tracing Routing plan, entering TDM attributes table with...
( 1)      1 parameter(s):
( 4)      TDM attributes table index = 1.
( 2)      reading TDM attributes table...
( 1)      5 parameter(s) read:
( 4)      Reattempts = 0.
( 4)      Queueing = 0.
( 4)      Cut through = 3.
( 4)      Reserve Incoming Percentage = 0.
( 4)      Bearer Capability Index = 0.
( 1)ending Trunk Group Analysis...
( 1)entering Trunk Sorting.
( 3) trunk group summary: 1 primary and 0 secondary trunk groups
      primary trunk groups:
( 4)      51
      secondary trunk groups:
( 1)ending Trunk Sorting...
( 1)end of trace reached

```

```

*****
* DONE full call translation verification *
* with 0 bytes left untranslated      *
*****
mgcusr@PGW2200%

```

Finally, make a test call and capture the details using the SS7 sniffer (in this case, the PT-MCT Cisco Sniffer Application).

Time stamp	Orig IP address	Dest IP address	Prot	Msg	Data
15:44:33.184859	1-010-1[02129]	1-003-1[02073]	ITU ISUP.	->	IAM (01) CIC=00031 CDPN=51929729F SLS=15 Pr:0 Ni:NTL

```

*****
*****  DETAIL  *****
CIC                                31
MESSAGE TYPE                          0x01 IAM - Initial_Address_Msg
NATURE_OF_CONNECTION                  0x06
  LENGTH:                              0x01 FIXED DATA 0x00
  SATELLITE IND                        0 no_satellite_circuit_in_connection
  CONTINUITY CHECK IND                 0 Continuity_check_not_required
  ECHO SUPPRESSOR IND                  0 outgoing_half_echo_suppressor_not_included
FORWARD CALL IND.                      0x07
  LENGTH:                              0x02 FIXED DATA 0x60 0x00
  NATL/INTL CALL IND                   0 incoming_national_call
  END-TO-END METHOD IND                  0 no_end_to_end_method_available
  INTERWORKING IND                     0 no_interworking_encountered
  END-TO-END INFO IND                   0 no_end_to_end_information_available
  ISUP IND.                             1 ISUP_used_all_the_way
  ISDN PREFERENCE IND                   1 isdn_up_pref_not_reqd

```

```

ISDN ACCESS IND.          0 originating_access_non_ISDN
SCCP Method               0 no indication
CALLING PARTYS CATEGORY  0x09
LENGTH:                   0x01 FIXED DATA 0x0A
CALLING PARTYS CATEGORY  10 ordinary_subscriber_precedence_level_1
TRANSMISSION MEDIUM REQUIRED 0x02
LENGTH:                   0x01 FIXED DATA 0x03
TRANSMISSION MEDIUM REQUIRED 3 3_1_kHz_audio
INDEX TO CALLED PTY ADDRESS 0x02
INDEX TO OPTIONAL PART   0x09
CALLED PARTY NUMBER PARM 0x04
LENGTH:                   0x07 VAR.  DATA 0x83 0x90 0x15 0x29 0x79 0x92 0x0F
ODD/EVEN IND              1 odd_number_of_digits
NATURE OF ADDRESS IND    0x03 national_number
INTERNAL NETWORK PARM    1 routing_to_internal_network_number_not_allowed
NUMBERING PLAN           1 ISDN_Telephony_Numbering_Plan
DIGITS:                   51929729F
EXTENSION DIGIT         F -ST
OPTIONAL PARAMETERS:
RESERVED/UNKNOWN OPT PARM 0x3D
LENGTH:                   0x01 OPT.  DATA 0x1F
USER SERVICE INFO        0x1D
LENGTH:                   0x03 OPT.  DATA 0x90 0x90 0xA3
EXTENSION BIT            1 last_octet
CODING STANDARD          0 CCITT_coding_standard
BC INFO TRANSFER CAP     16 audio_3_1_khz
EXTENSION BIT            1 last_octet
TRANSFER MODE            0 circuit_mode
INFORMATION TRANSFER RATE 16 rate_64_kb_per_s
EXTENSION BIT            1 last_octet
USER LAYER IDENTIFICATION 1 user_info_layer_1_protocol
MULTIPLIER/PROTOCOL ID  3 A_law_speech
ACCESS TRANSPORT         0x03
LENGTH:                   0x04 OPT.  DATA 0x1E 0x02 0x81 0x83
END OF OPTIONAL PARAMETERS 0x00
*****                      END_OF_MSG                      *****

```

```

15:44:33.211009 10.48.84.25:2427 10.48.84.188:2427 MGCP..... ->
CRCX 2001761 s0/ds1-0/31@v5300-3.cisco.com MGCP 0.1
C: 75
L: e:off,nt:LOCAL
M: sendrecv
R:
S:
X: 1E8B60
15:44:33.225115 10.48.84.188:2427 10.48.84.25:2427 MGCP..... -> 200 2001761 OK
I: 33
v=0
o=- 51 0 LOCAL EPN S0/DS1-0/31
s=Cisco SDP 0
c=LOCAL EPN S0/DS1-0/31
t=0 0
m=audio 0 LOCAL 0
15:44:33.241263 10.48.84.25:2427 10.48.84.188:2427 MGCP..... ->
CRCX 2001762 s0/ds1-0/1@v5300-3.cisco.com MGCP 0.1
C: 75
L: e:off,nt:LOCAL

```

```

M: sendrecv
v=0
o=- 51 0 LOCAL EPN S0/DS1-0/31
s=Cisco SDP 0
c=LOCAL EPN S0/DS1-0/31
t=0 0
m=audio 0 LOCAL 0
15:44:33.254784 10.48.84.188:2427 10.48.84.25:2427 MGCP..... -> 200 2001762 OK
I: 34
v=0
o=- 52 0 LOCAL EPN S0/DS1-0/1
s=Cisco SDP 0
c=LOCAL EPN S0/DS1-0/1
t=0 0
m=audio 0 LOCAL 0
15:44:33.270628 1-003-1[02073] 1-010-1[02129] ITU ISUP. ->
IAM (01) CIC=00001
CDPN=929729F
SLS=01 Pr:0 Ni:NTL

```

***** DETAIL *****

```

CIC 1
MESSAGE TYPE 0x01 IAM - Initial_Address_Msg
NATURE_OF_CONNECTION 0x06
LENGTH: 0x01 FIXED DATA 0x00
SATELLITE IND 0 no_satellite_circuit_in_connection
CONTINUITY CHECK IND 0 Continuity_check_not_required
ECHO SUPPRESSOR IND 0 outgoing_half_echo_suppressor_not_included
FORWARD CALL IND. 0x07
LENGTH: 0x02 FIXED DATA 0x60 0x00
NATL/INTL CALL IND 0 incoming_national_call
END-TO-END METHOD IND 0 no_end_to_end_method_available
INTERWORKING IND 0 no_interworking_encountered
END-TO-END INFO IND 0 no_end_to_end_information_available
ISUP IND. 1 ISUP_used_all_the_way
ISDN PREFERENCE IND 1 isdn_up_pref_not_reqd
ISDN ACCESS IND. 0 originating_access_non_ISDN
SCCP Method 0 no indication
CALLING PARTYS CATEGORY 0x09
LENGTH: 0x01 FIXED DATA 0x0A
CALLING PARTYS CATEGORY 10 ordinary_subscriber_precedence_level_1
TRANSMISSION MEDIUM REQUIRED 0x02
LENGTH: 0x01 FIXED DATA 0x03
TRANSMISSION MEDIUM REQUIRED 3 3_1_kHz_audio
INDEX TO CALLED PTY ADDRESS 0x02
INDEX TO OPTIONAL PART 0x08
CALLED PARTY NUMBER PARM 0x04
LENGTH: 0x06 VAR. DATA 0x83 0x90 0x29 0x79 0x92 0x0F
ODD/EVEN IND 1 odd_number_of_digits
NATURE OF ADDRESS IND 0x03 national_number
INTERNAL NETWORK PARM 1 routing_to_internal_network_number_not_allowed
NUMBERING PLAN 1 ISDN_Telephony_Numbering_Plan
DIGITS: 929729F
EXTENSION DIGIT F -ST
OPTIONAL PARAMETERS:
RESERVED/UNKNOWN OPT PARM 0x3D
LENGTH: 0x01 OPT. DATA 0x1F
USER SERVICE INFO 0x1D

```

```

LENGTH:                0x03 OPT.  DATA 0x90 0x90 0xA3
EXTENSION BIT          1 last_octet
CODING STANDARD        0 CCITT_coding_standard
BC INFO TRANSFER CAP   16 audio_3_1_khz
EXTENSION BIT          1 last_octet
TRANSFER MODE         0 circuit_mode
INFORMATION TRANSFER RATE 16 rate_64_kb_per_s
EXTENSION BIT          1 last_octet
USER LAYER IDENTIFICATION 1 user_info_layer_1_protocol
MULTIPLIER/PROTOCOL ID 3 A_law_speech
ACCESS TRANSPORT      0x03
  LENGTH:              0x04 OPT.  DATA 0x1E 0x02 0x81 0x83
RESERVED/UNKNOWN OPT PARM 0x39
  LENGTH:              0x02 OPT.  DATA 0x3D 0xC0
END OF OPTIONAL PARAMETERS 0x00
*****                END_OF_MSG                *****

```

```

15:44:33.544074 1-010-1[02129] 1-003-1[02073] ITU ISUP. -> ACM (06) CIC=00001
SLS=01 Pr:0 Ni:NTL

```

```

*****                DETAIL                *****

```

```

CIC                1
MESSAGE TYPE          0x06 ACM - Address_Complete_Msg
BACKWARD CALL IND    0x11
  LENGTH:            0x02 FIXED DATA 0x02 0x14
  CHARGE IND         2 charge
  CALLED PTYS STATUS IND 0 no_indication_default
  CALLED PARTYS CATEGORY 0 no_indication_default
  END-TO-END METHOD IND 0 no_end_to_end_method_available
  INTERWORKING IND   0 no_interworking_encountered
  END-TO-END INFO IND 0 no_end_to_end_information_available
  ISUP IND.          1 ISUP_used_all_the_way
  REVERSE HOLDING IND 0 reverse_holding_not_required
  ISDN ACCESS IND.   1 terminating_access_ISDN
INDEX TO OPTIONAL PART 0x01
OPTIONAL PARAMETERS:
OPTIONAL BACKWARD CALL IND 0x29
  LENGTH:            0x01 OPT.  DATA 0x01
  FORWARDING IND    0 no_indication
  INBAND INFO IND   1 inband_information
  SIMPLE SEGMENTATION 0 no additional information will be sent
  NET EXCESSIVE DELAY 0 no_indication
  USER NETWORK INTERACTION 0 no_indication
END OF OPTIONAL PARAMETERS 0x00
*****                END_OF_MSG                *****

```

```

15:44:33.560716 10.48.84.25:2427 10.48.84.188:2427 MGCP..... ->
MDCX 2001764 s0/ds1-0/31@v5300-3.cisco.com MGCP 0.1
  C: 75
  I: 33
  L: e:off,nt:LOCAL
  M: sendrecv
  R:
  S:
  X: 1E8B63
  v=0

```

```

o=- 52 0 LOCAL EPN S0/DS1-0/1
s=Cisco SDP 0
c=LOCAL EPN S0/DS1-0/1
t=0 0
m=audio 0 LOCAL 0
15:44:33.565405 10.48.84.188:2427 10.48.84.25:2427 MGCP..... -> 200 2001764 OK
v=0
o=- 51 1 LOCAL EPN S0/DS1-0/31
s=Cisco SDP 0
c=LOCAL EPN S0/DS1-0/31
t=0 0
m=audio 0 LOCAL 0
15:44:33.580472 1-003-1[02073] 1-010-1[02129] ITU ISUP. -> ACM (06) CIC=00031
SLS=15 Pr:0 Ni:NTL

```

DETAIL *****

```

CIC 31
MESSAGE TYPE 0x06 ACM - Address_Complete_Msg
BACKWARD CALL IND 0x11
LENGTH: 0x02 FIXED DATA 0x02 0x14
CHARGE IND 2 charge
CALLED PTYS STATUS IND 0 no_indication_default
CALLED PARTYS CATEGORY 0 no_indication_default
END-TO-END METHOD IND 0 no_end_to_end_method_available
INTERWORKING IND 0 no_interworking_encountered
END-TO-END INFO IND 0 no_end_to_end_information_available
ISUP IND. 1 ISUP_used_all_the_way
REVERSE HOLDING IND 0 reverse_holding_not_required
ISDN ACCESS IND. 1 terminating_access_ISDN
INDEX TO OPTIONAL PART 0x01
OPTIONAL PARAMETERS:
OPTIONAL BACKWARD CALL IND 0x29
LENGTH: 0x01 OPT. DATA 0x01
FORWARDING IND 0 no_indication
INBAND INFO IND 1 inband_information
SIMPLE SEGMENTATION 0 no_additional_information_will_be_sent
NET EXCESSIVE DELAY 0 no_indication
USER NETWORK INTERACTION 0 no_indication
END OF OPTIONAL PARAMETERS 0x00
***** END_OF_MSG *****

```

```

15:44:34.824070 1-010-1[02129] 1-003-1[02073] ITU ISUP. -> ANM (09) CIC=00001
SLS=01 Pr:0 Ni:NTL

```

DETAIL *****

```

CIC 1
MESSAGE TYPE 0x09 ANM - Answer_Msg
INDEX TO OPTIONAL PART 0x01
OPTIONAL PARAMETERS:
BACKWARD CALL IND 0x11
LENGTH: 0x02 OPT. DATA 0x02 0x04
CHARGE IND 2 charge
CALLED PTYS STATUS IND 0 no_indication_default
CALLED PARTYS CATEGORY 0 no_indication_default
END-TO-END METHOD IND 0 no_end_to_end_method_available
INTERWORKING IND 0 no_interworking_encountered
END-TO-END INFO IND 0 no_end_to_end_information_available

```

```

ISUP IND.                1 ISUP_used_all_the_way
REVERSE HOLDING IND     0 reverse_holding_not_required
ISDN ACCESS IND.       0 terminating_access_non_ISDN
ACCESS TRANSPORT       0x03
LENGTH:                0x04 OPT.  DATA 0x1E 0x02 0x81 0x82
END OF OPTIONAL PARAMETERS 0x00
*****                END_OF_MSG                *****

```

```

15:44:34.841851 1-003-1[02073] 1-010-1[02129] ITU ISUP. -> ANM (09) CIC=00031
SLS=15 Pr:0 Ni:NTL

```

```

*****                DETAIL                *****

```

```

CIC                31
MESSAGE TYPE           0x09 ANM - Answer_Msg
INDEX TO OPTIONAL PART 0x01
OPTIONAL PARAMETERS:
BACKWARD CALL IND     0x11
LENGTH:              0x02 OPT.  DATA 0x02 0x04
CHARGE IND           2 charge
CALLED PTYS STATUS IND 0 no_indication_default
CALLED PARTYS CATEGORY 0 no_indication_default
END-TO-END METHOD IND  0 no_end_to_end_method_available
INTERWORKING IND     0 no_interworking_encountered
END-TO-END INFO IND  0 no_end_to_end_information_available
ISUP IND.            1 ISUP_used_all_the_way
REVERSE HOLDING IND  0 reverse_holding_not_required
ISDN ACCESS IND.    0 terminating_access_non_ISDN
ACCESS TRANSPORT     0x03
LENGTH:              0x04 OPT.  DATA 0x1E 0x02 0x81 0x82
END OF OPTIONAL PARAMETERS 0x00
*****                END_OF_MSG                *****

```

```

15:44:39.112351 1-010-1[02129] 1-003-1[02073] ITU ISUP. -> REL (0c) CIC=00001
Cause 16 = Normal Call Clearing
SLS=01 Pr:0 Ni:NTL

```

```

*****                DETAIL                *****

```

```

CIC                1
MESSAGE TYPE           0x0C REL - Release_Msg
INDEX TO VARIABLE PART 0x02
INDEX TO OPTIONAL PART 0x00
CAUSE IND              0x12
LENGTH:              0x02 VAR.  DATA 0x80 0x90
EXTENSION BIT         1 diagnostic_is_not_included
CODING STANDARD       0 CCITT_standard
GENERAL LOCATION      0 User
EXTENSION BIT         1 diagnostic_is_not_included
CLASS                 1 Normal event
VALUE IN CLASS        0
CAUSE VALUE           16 Normal_clearing
*****                END_OF_MSG                *****

```

```

15:44:39.130674 10.48.84.25:2427 10.48.84.188:242 MGCP..... ->
DLCX 2001766 s0/ds1-0/31@v5300-3.cisco.com MGCP 0.1
C: 75

```


I: 33

R:

S:

X: 1E8B65

15:44:39.131018 10.48.84.25:2427 10.48.84.188:2427 MGCP..... ->
DLCX 2001768 s0/ds1-0/1@v5300-3.cisco.com MGCP

0.1

C: 75

I: 34

R:

S:

X: 1E8B67

15:44:39.131487 1-003-1[02073] 1-010-1[02129] ITU ISUP. ->
REL (0c) CIC=00031
Cause 16 = Normal Call Clearing
SLS=15 Pr:0 Ni:NTL

***** DETAIL *****

```

CIC                                31
MESSAGE TYPE                          0x0C REL - Release_Msg
INDEX TO VARIABLE PART                 0x02
INDEX TO OPTIONAL PART                 0x00
CAUSE IND                              0x12
  LENGTH:                             0x02 VAR.  DATA 0x80 0x90
  EXTENSION BIT                        1 diagnostic_is_not_included
  CODING STANDARD                      0 CCITT_standard
  GENERAL LOCATION                     0 User
  EXTENSION BIT                        1 diagnostic_is_not_included
  CLASS                               1 Normal event
  VALUE IN CLASS                       0
  CAUSE VALUE                          16 Normal_clearing
*****                                END_OF_MSG                                *****

```

15:44:39.133012 10.48.84.188:2427 10.48.84.25:2427 MGCP..... ->
250 2001766 HP delcon OK
15:44:39.134597 10.48.84.188:2427 10.48.84.25:2427 MGCP..... ->
250 2001768 HP delcon OK
15:44:39.151424 1-003-1[02073] 1-010-1[02129] ITU ISUP. -> **RLC (10) CIC=00001**
SLS=01 Pr:0 Ni:NTL

***** DETAIL *****

```

CIC                                1
MESSAGE TYPE                          0x10 RLC - Release_Complete_Msg
*****                                END_OF_MSG                                *****

```

15:44:39.247719 1-010-1[02129] 1-003-1[02073] ITU ISUP. -> **RLC (10) CIC=00031**
SLS=15 Pr:0 Ni:NTL

***** DETAIL *****

```

CIC                                31
MESSAGE TYPE                          0x10 RLC - Release_Complete_Msg

```

Note: Until now SimWriter was not able to capture all property driven changes. Refer to Cisco bug ID [CSCee18831](#) (registered customers only) .

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