

CDR Field Descriptions

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Accounting Records Summary Table

The following table lists the SBC Accounting Records. Click the field name to view the description.

Table 1: Accounting Records Summary for Call-Specific records

Field name	ASCII Accounting					
	Max ASCII Length	Type	Record Number			
			START	STOP	ATTEMPT	INTERMEDIATE
START	5	Characters	1	N/A	N/A	N/A
STOP	4	Characters	N/A	1	N/A	N/A
ATTEMPT	7	Characters	N/A	N/A	1	N/A
INTERMEDIATE	12	Characters	N/A	N/A	N/A	1
Gateway Name	23	Characters	2	2	2	2
Accounting ID	18	64-Bit Hex	3	3	3	3
Start Time in System Ticks	10	Decimal	4	4	4	4
Node Time Zone	23	Characters	5	5	5	5
Start Time (Date)	10	mm/dd/yyyy	6	6	6	6
Start Time (Time)	10	hh:mm:ss.d	7	7	7	7
Time Elapsed from Receipt of Setup Message to Policy Server/SoftSwitch Response	10	Decimal	8	8	8	8
Time Elapsed from Receipt of Setup Message to Receipt of Alerting/ProcProg	10	Decimal	9	9	9	N/A
Time Elapsed from Receipt of Setup Message to Service Established	10	Decimal	10	10	N/A	9

Intermediate Time (Date)	10	mm/dd/yyyy	N/A	N/A	N/A	10
Intermediate Time (Time)	10	hh:mm:ss.d	N/A	N/A	N/A	11
Disconnect Time (Date)	10	mm/dd/yyyy	N/A	11	105	N/A
Disconnect Time (Time)	10	hh:mm:ss.d	N/A	12	10	N/A
Time Elapsed from Receipt of Disconnect to Completion of Call	10	Decimal	N/A	13	11	N/A
Call Service Duration	10	Decimal	N/A	14	N/A	12
Call Disconnect Reason	3	Decimal	N/A	15	12	N/A
Service Delivered	22	Characters	11	16	13	13
Call Direction	12	Characters	12	17	14	14
Service Provider	23	Characters	13	18	15	15
Transit Network Selection Code	5	Characters	14	19	16	16
Calling Number	30	Characters	15	20	17	17
Called Number	30	Characters	16	21	18	18
Extra Called Address Digits	30	Characters	17	22	19	19
Number of Called Num Translations Done by This Node	1	Decimal	18	23	20	20
Called Number Before Translation #1	30	Characters	19	24	21	21
Translation Type 1	1	Decimal	20	25	22	22
Called Number Before Translation #2	30	Characters	21	26	23	23
Translation Type 2	1	Decimal	22	27	24	24
Billing Number	30	Characters	23	28	25	25
Route Label	23	Characters	24	29	26	26
Route Attempt Number	5	Decimal	25	30	27	27
Route Selected	63	Characters	26	31	28	28
Egress Local Gateway Signaling IP Address	39	Dotted Decimal	27	32	29	29
Egress Remote Gateway Signaling IP Address	39	Dotted Decimal	28	33	30	30
Ingress Trunk Group Name	23	Characters	29	34	31	31
Ingress PSTN Circuit End Point	38	Characters	30	35	32	32
Ingress IP Circuit End Point	91	Characters	31	36	33	33
Egress PSTN Circuit End Point	38	Characters	32	37	34	34
Egress IP Circuit End Point	91	Characters	33	38	35	35
Ingress Number of Audio Bytes Sent	20	Decimal	N/A	39	N/A	N/A
Ingress Number of Audio Packets Sent	20	Decimal	N/A	40	N/A	N/A
Ingress Number of Audio Bytes Received	20	Decimal	N/A	41	N/A	N/A
Ingress Number of Audio Packets Received	20	Decimal	N/A	42	N/A	N/A
Originating Line Information (OLIP)	3	Decimal	34	43	36	54

Jurisdiction Information Parameter	15	Characters	35	44	37	55
Carrier Code	5	Characters	36	45	38	36
Call Group ID	10	32-Bit Hex	37	46	39	37
Script Log Data	95	Characters		47	40	
Time Elapsed from Receipt of Setup Message to Receipt of Exit Message	10	Decimal	38	48	41	95
Time Elapsed from Receipt of Setup Message to Generation of Exit Message	10	Decimal	39	49	42	96
Calling Party Nature of Address	3	Decimal	40	50	43	56
Called Party Nature of Address	3	Decimal	41	51	44	57
Ingress Protocol Variant Specific Data	3129	Characters	42	52	45	38
Ingress Signaling Type	2	Decimal	43	53	46	39
Egress Signaling Type	2	Decimal	44	54	47	40
Ingress Far End Switch Type	1	Decimal	45	55	48	41
Egress Far End Switch Type	1	Decimal	46	56	49	42
Far End Ingress TG Carrier Code	5	Characters	47	57	50	43
Far End Egress TG Carrier Code	5	Characters	48	58	51	44
Calling Party Category	4	8 Bit Hex	49	59	52	45
Dialed Number	30	Characters	50	60	53	46
Carrier Selection Information	1	Decimal	51	61	54	47
Called Number Numbering Plan	2	Decimal	52	62	55	48
Generic Address Parameter	30	Characters	53	63	56	49
Disconnect Initiator	1	Decimal	N/A	64	57	N/A
Ingress Number of Packets Recorded as Lost	10	Decimal	N/A	65	N/A	N/A
Ingress Interarrival Packet Jitter	5	Decimal	N/A	66	N/A	N/A
Ingress Last Measurement for Latency	5	Decimal	N/A	67	N/A	N/A
Egress Trunk Group Name	23	Characters	54	68	58	50
Egress Protocol Variant Specific Data	3129	Characters	55	69	59	51
Incoming Calling Number	30	Characters	56	70	60	52
Intermediate Record Reason	1	Decimal	N/A	N/A	N/A	53
AMA Call Type	3	Characters	57	71	61	58
Message Billing Index (MBI)	3	Characters	58	72	62	59
Originating LATA	3	Characters	59	73	63	60
Route Index Used	2	Decimal	60	74	64	
Calling Party Number Presentation Restriction	1	Decimal	61	75	65	61
Incoming ISUP Charge Number	30	Characters	62	76	66	62
Incoming ISUP Charge Number NOA	3	Decimal	63	77	67	63
Dialed Number NOA	3	Decimal	64	78	68	64

Ingress Codec Type	6	String	N/A	79	69	N/A
Egress Codec Type	6	String	N/A	80	70	N/A
Ingress RTP Packetization Time	3	Decimal	N/A	81	71	N/A
SBC Call ID	10	32 Bit Hex	65	82	72	65
Terminated with Script Execution	1	Boolean	N/A	N/A	73	N/A
Originator Echo Cancellation	1	Decimal	N/A	83	74	N/A
Terminator Echo Cancellation	1	Decimal	N/A	84	75	N/A
Charge Flag	1	Decimal	66	85	76	66
AMA Service Logic Identification	9	Characters	67	86	77	67
AMA BAF Module	256	Characters	68	87	78	68
AMA Set Hex AB Indication	1	Boolean	69	88	79	69
Service Feature ID	3	Characters	70	89	80	70
FE Parameter	22	Hex (10 bytes)	71	90	81	71
Satellite Indicator	1	Decimal	72	91	82	72
PSX Billing Information	256	Hex (128 bytes)	73	92	83	73
Originating TDM Trunk Group Type	1	Decimal	74	93	84	74
Terminating TDM Trunk Group Type	1	Decimal	75	94	85	75
Ingress Trunk Member Number	5	Decimal	76	95	86	76
Egress Trunk Group ID	12	Decimal	77	96	87	77
Egress Switch ID	8	Decimal	78	97	88	78
Ingress Local ATM Address	0	Reserved	79	98	89	79
Ingress Remote ATM Address	0	Reserved	80	99	90	80
Egress Local ATM Address	0	Reserved	81	100	91	81
Egress Remote ATM Address	0	Reserved	82	101	92	82
Policy Response Call Type	4	Decimal	83	102	93	83
Outgoing Route Identification	5	Decimal	84	103	94	84
Outgoing Message Identification	1	Decimal	85	104	95	85
Incoming Route Identification	5	Decimal	86	105	96	86
Calling Name	25	Characters	87	106	97	87
Calling Name Type	1	Decimal	88	107	98	88
Incoming Calling Party Numbering Plan	2	Decimal	89	108	99	89
Outgoing Calling Party Numbering Plan	2	Decimal	90	109	100	90
Calling Party Business Group ID	10	Decimal	91	110	101	91
Called Party Business Group ID	10	Decimal	92	111	102	92
Calling Party Public Presence Directory Number	30	Characters	93	112	103	93
Elapsed Time from Receipt of Setup Message to Last Call Routing Attempt	10	Decimal (10 ms ticks)	94	113	104	94
Billing Number NOA	3	Decimal	95	114	106	97

Incoming Calling Number NOA	3	Decimal	96	115	107	98
Egress Trunk Member Number	5	Decimal	97	116	108	99
Selected Route Type	1	Decimal	98	117	109	100
Telcordia Long Duration Record Type	1	Decimal	N/A	118	N/A	101
Time Elapsed from Previous Record	10	Decimal (10 ms ticks)		119		102
Cumulative Route Index	5	Decimal	99	120	110	N/A
Call Disconnect Reason Transmitted to Ingress	3	Decimal	N/A	121	111	N/A
Call Disconnect Reason Transmitted to Egress	3	Decimal	N/A	122	112	N/A
ISDN PRI Calling Party Subaddress	30	Characters	100	123	113	103
Outgoing Trunk Group Number in EXM	6	Decimal	101	124	114	104
Ingress Local Gateway Signaling IP Address	39	Dotted Decimal	102	125	115	105
Ingress Remote Gateway Signaling IP Address	39	Dotted Decimal	103	126	116	106
Record Sequence Number	10	Decimal	104	127	117	107
Transmission Medium Requirement (TMR)	3	Decimal	105	128	118	108
Information Transfer Rate (ITR)	2	Decimal	106	129	119	109
User Service Information (USI) User Information Layer 1	2	Decimal	107	130	120	110
Unrecognized Raw ISUP Calling Party Category	3	Decimal	108	131	121	111
Egress RLT Feature Specific Data	598	Characters	109	132	122	112
Two B-Channel Transfer Feature Specific Data	72	Characters	110	133	123	113
Calling Party Business Unit	10	Decimal	111	134	124	114
Called Party Business Unit	10	Decimal	112	135	125	115
Redirection Feature Specific Data	123	Characters	113	136	126	116
Ingress RLT Feature Specific Data	598	Characters	114	137	127	117
PSX Index	2	Decimal	115	138	128	118
PSX Congestion Level	1	Decimal	116	139	129	119
PSX Processing Time	5	Decimal	117	140	130	120
Script Name	23	Characters	118	141	131	121
Ingress External Accounting Data	128	Characters	119	142	132	122
Egress External Accounting Data	128	Characters	120	143	133	123
Egress RTP Packetization Time	3	Decimal	N/A	144	134	N/A
Egress Number of Audio Bytes Sent	20	Decimal	N/A	145	N/A	N/A
Egress Number of Audio Packets Sent	20	Decimal	N/A	146	N/A	N/A


Egress Number of Audio Bytes Received	20	Decimal	N/A	147	N/A	N/A
Egress Number of Audio Packets Received	20	Decimal	N/A	148	N/A	N/A
Egress Number of Packets Recorded as Lost	10	Decimal	N/A	149	N/A	N/A
Egress Interarrival Packet Jitter	5	Decimal	N/A	150	N/A	N/A
Egress Last Measurement for Latency	5	Decimal	N/A	151	N/A	N/A
Ingress Maximum Packet Outage	10	Decimal	N/A	152	N/A	N/A
Egress Maximum Packet Outage	10	Decimal	N/A	153	N/A	N/A
Ingress Packet Playout Buffer Quality	16	Hexadecimal	N/A	154	N/A	N/A
Egress Packet Playout Buffer Quality	16	Hexadecimal	N/A	155	N/A	N/A
Answer Supervision Type	1	Decimal	121	156	135	124
Ingress SIP REFER and Replaces Feature Specific Data	70	Characters	122	157	136	125
Egress SIP REFER and Replaces Feature Specific Data	70	Characters	123	158	137	126
Network Transfer Feature Specific Data	54	Characters	124	159	138	127
Call Condition	2	Decimal	125	160	139	128
Toll Indicator	2	Decimal	126	161	140	129
Generic Number (Number)	30	Characters	127	162	141	130
Generic Number (Presentation Restriction Indicator)	1	Decimal	128	163	142	131
Generic Number (Numbering Plan)	2	Decimal	129	164	143	132
Generic Number (Nature of Address)	3	Decimal	130	165	144	133
Generic Number (Type)	2	Decimal	131	166	145	134
Final ATTEMPT Indicator	1	Decimal			146	
Originating Trunk Type	2	Hexadecimal	132	167	147	135
Terminating Trunk Type	2	Hexadecimal	133	168	148	136
Remote SBC Billing Indicator	1	Decimal	150	169	149	153
Extra Disconnect Reason	4	Decimal	N/A	N/A	150	N/A
VPN Calling Private Presence Number	30	Characters	134	170	151	137
VPN Calling Public Presence Number	30	Characters	135	171	152	138
External Furnish Charging Info	800	Hexadecimal	136	172	153	139
Ingress Policing Discards	20	Decimal	N/A	173	N/A	N/A
Egress Policing Discards	20	Decimal	N/A	174	N/A	N/A
Announcement ID	5	Decimal	137	175	154	140
Source Information	2	Decimal	138	176	155	141
Partition ID	4	Decimal	139	177	156	142
Network ID	5	Decimal	140	178	157	143

NCOS	5	Decimal	141	179	158	144
Ingress SRTP	7	String	N/A	180	N/A	N/A
Egress SRTP	7	String	N/A	181	N/A	N/A
ISDN Access Indicator from the Forward Call Indicator	1	Decimal	142	182	159	145
Call Disconnect Location	2	Decimal	N/A	183	160	N/A
Call Disconnect Location Transmitted to Ingress	2	Decimal	N/A	184	161	N/A
Call Disconnect Location Transmitted to Egress	2	Decimal	N/A	185	162	N/A
Network Call Reference - Call Identity	8	Decimal	143	186	163	146
Network Call Reference - Signaling Point Code	5	Decimal	144	187	164	147
Ingress ISUP MIME Protocol Variant Specific Data	3129	Characters	145	188	165	148
Egress ISUP MIME Protocol Variant Specific Data	3129	Characters	146	189	166	149
Modem Tone Type	1	Decimal	N/A	190	N/A	N/A
Modem Tone Signal Level	2	Decimal	N/A	191	N/A	N/A
Video Codec Data	512	Characters	147	192	167	150
Video Codec Statistics	512	Characters		193		
SVS Customer	4	Decimal	148	194	168	151
SVS Vendor (deprecated)	0	Decimal	149	195	169	152
Call to Test PSX	1	BOOLEAN	151	196	170	154
PSX Overlap Route Requests	2	Decimal	152	197	171	155
Call Setup Delay	21	Characters	153	198	172	N/A
Overload Status	3	Decimal	154	199	173	N/A
RESERVED (Ingress Bicc Info)	36	Character	155	200	174	156
RESERVED (Egress Bicc Info)	36	Character	156	201	175	157
Ingress DSP Data	4	Hexadecimal	N/A	202	N/A	N/A
Egress DSP Data	4	Hexadecimal	N/A	203	N/A	N/A
Call Recorded Indicator	3	String	N/A	204	N/A	N/A
Call Recorded RTP Tx IP Address	15	Character	N/A	205	N/A	N/A
Call Recorded RTP Tx Port Number	5	Decimal	N/A	206	N/A	N/A
Call Recorded RTP Rv IP Address	15	Character	N/A	207	N/A	N/A
Call Recorded RTP Rv Port Number	5	Decimal	N/A	208	N/A	N/A
MLPP Precedence Level	1	Decimal	157	209	176	158
RESERVED (MSRP Service Type)	1	Decimal	158	210	177	N/A
RESERVED (NPUKK Special Routing Information)	4	8 bit Hex	159	211	178	159
RESERVED (NPUKK Customer Or Carrier Identification)	5	Decimal	160	212	179	160

RESERVED (NPUKK ServiceType Identifier)	3	Decimal	161	213	180	161
RESERVED (NPSSP Special Handling Information)	4	8 bit Hex	162	214	181	162
RESERVED (NPSSP Service Type Identifier)	3	Decimal	163	215	182	163
RESERVED (Total ITX Charge Units)	5	Decimal	N/A	216	N/A	164
RESERVED (ONI Str)	16	Characters	164	N/A	183	N/A
RESERVED (Suppress ONI)	1	Decimal	165	N/A	184	N/A
Global Charge Reference (GCR)	40	Characters	166	217	185	165
RESERVED (3xx Contact Information)	1301	Characters	N/A	N/A	186	N/A
RESERVED (IP Call Limit at ingress SIP Peer)	1	Decimal	167	218	N/A	N/A
RESERVED (IP Call Limit at ingress IPTG)	1	Decimal	168	219	N/A	N/A
RESERVED (IP BW Limit at ingress IPTG)	1	Decimal	169	220	N/A	N/A
RESERVED (IP Call Limit at egress SIP Peer)	1	Decimal	170	221	N/A	N/A
RESERVED (IP Call Limit at egress IPTG)	1	Decimal	171	222	N/A	N/A
RESERVED (IP BW Limit at egress IPTG)	1	Decimal	172	223	N/A	N/A
RESERVED (PSX Name)	24	Characters	173	224	187	166
RESERVED (No. of PSX tried)	4	Decimal	174	225	188	167
Ingress Inbound R-Factor	2	Decimal	N/A	226	N/A	N/A
Ingress Outbound R-Factor	2	Decimal	N/A	227	N/A	N/A
Egress Inbound R-Factor	2	Decimal	N/A	228	N/A	N/A
Egress Outbound R-Factor	2	Decimal	N/A	229	N/A	N/A
Media Stream Data	2944 (includes double quotes at begin/end)	Characters	N/A	230	N/A	N/A
Media Stream Stats	1414	Characters	N/A	231	N/A	N/A
Transcode Indicator	1	Boolean	N/A	232	N/A	N/A
HD Codec Rate	2	Decimal	N/A	233	N/A	N/A
Remote Ingress Audio RTCP Learned Metrics	1024	String	N/A	234	N/A	N/A
Remote Egress Audio RTCP Learned Metrics	1024	String	N/A	235	N/A	N/A
RESERVED (Final Route Label)	23	Characters	175	236	189	168
MTA Information	49	Characters	176	237	190	169
VBR Common Billing Data	256	Characters	N/A	238	191	N/A
VBR Route Billing Data	256	Characters	N/A	239	192	N/A
Access Network Charging Information	130	Characters	177	245	196	170
Access Transfer Specific Data	96 (includes double quotes at begin/end)	Characters	178	240	193	171
Emergency Indicator	1	Boolean	179	241	194	172

Ingress Dtls-Srtp: Dtls-Srtp status info	1	Digit	N/A	242	N/A	N/A
Egress Dtls-Srtp: Dtls-Srtp status info	1	Digit	N/A	243	N/A	N/A
UE Roaming Status	1	Decimal	180	244	195	173
Ingress Signaled Session Bandwidth in kbps	6	Decimal	N/A	246	N/A	N/A
Ingress Rx Computed Session Bandwidth in kbps	6	Decimal	N/A	247	N/A	N/A
Ingress Tx Computed Session Bandwidth in kbps	6	Decimal	N/A	248	N/A	N/A
Ingress Configured Bandwidth Reduction Factor	2	Decimal	N/A	249	N/A	N/A
Ingress Estimated Bandwidth Reduction Factor	2	Decimal	N/A	250	N/A	N/A
Egress Signaled Session Bandwidth in kbps	6	Decimal	N/A	251	N/A	N/A
Egress Rx Computed Session Bandwidth in kbps	6	Decimal	N/A	252	N/A	N/A
Egress Tx Computed Session Bandwidth in kbps	6	Decimal	N/A	253	N/A	N/A
Egress Configured Bandwidth Reduction Factor	2	Decimal	N/A	254	N/A	N/A
Egress Estimated Bandwidth Reduction Factor	2	Decimal	N/A	255	N/A	N/A
Additional Media Stream Statistics	222 (includes double quotes at begin/end)	String	N/A	256	202	N/A
Ingress Zone Name	23	String	181	257	197	174
Egress Zone Name	23	String	182	258	198	175
Ingress Zone Id	6	Decimal	183	259	199	176
Egress Zone Id	6	Decimal	184	260	200	177
Video Cac	15	String	N/A	261	N/A	N/A
Ingress IP Prefix Found TG Name	24	String	185	262	201	178
Transcode Resource Type	4	String	N/A	263	N/A	N/A
MRF Information	47 (includes double quotes at begin/end)	String	N/A	264	N/A	N/A
Forking Call Parent GCID	10	32 bit Hex	186	265	203	N/A
Call Recorder 1 RTP Tx Ip address	39	Characters	N/A	266	N/A	N/A
Call Recorder 1 RTP Tx Port Number	5	Decimal	N/A	267	N/A	N/A
Call Recorder 1 RTP Rx IP address	39	Characters	N/A	268	N/A	N/A
Call Recorder 1 RTP Rx Port Number	5	Decimal	N/A	269	N/A	N/A
Call Recorder 2 RTP Tx Ip address	39	Characters	N/A	270	N/A	N/A
Call Recorder 2 RTP Tx Port Number	5	Decimal	N/A	271	N/A	N/A

Call Recorder 2 RTP Rx IP address	39	Characters	N/A	272	N/A	N/A
Call Recorder 2 RTP Rx Port Number	5	Decimal	N/A	273	N/A	N/A
Call Recorder 3 RTP Tx Ip address	39	Characters	N/A	274	N/A	N/A
Call Recorder 3 RTP Tx Port Number	5	Decimal	N/A	275	N/A	N/A
Call Recorder 3 RTP Rx IP address	39	Characters	N/A	276	N/A	N/A
Call Recorder 3 RTP Rx Port Number	5	Decimal	N/A	277	N/A	N/A
SO-SBC	4	String	187	278	204	179
Audio Stream Statistics	15	Characters	N/A	279	N/A	N/A
Audio Stream RTCP-XR Voice Metric Statistics	151	Characters	N/A	280	N/A	N/A
Media Stream SRTP Statistics	151	Characters	N/A	281	N/A	N/A
DSP insertion/rejection reason	88	Characters	N/A	282	205	N/A

 SBC may insert non-ASCII characters in CDRs when messages are parsed in the initial INVITE.

START

This record indicates that the call has been successfully established/connected and session has successfully started.

STOP

This record indicates that a previously established successful session has now terminated.

ATTEMPT

This record indicates that a call/session failure scenario where a call/session could not be successfully established.

Note

The ATTEMPT record is generated for every INVITE attempt, if the flag `attemptRecordGeneration` flag is enabled.

INTERMEDIATE

This record captures any changes to signaling/call details during the session. For scenarios where the call duration is long, this record is also generated periodically to indicate session progress.

REBOOT

This record indicates a node reboot occurred.

SWITCHOVER

This record indicates that the node experienced a switchover that is, standby mode went to active due to a switchover initiated from the cli or as a result of a problem on the active node.

SW_CHANGE

This record indicates an LSWU change:

- An LSWU is successfully completed.
- An LSWU is reverted.

Gateway Name

Gateway Name field (up to 23 characters).

If parameter loading is turned on, then the previously configured node name will appear in the REBOOT and SWITCHOVER records.

If parameter loading is turned off or Node Name object is never configured, this value is "None" in the REBOOT and SWITCHOVER records.

Accounting ID

Accounting ID (64 bits in HEX format).

This identifier occurs in each record, and combined with the Gateway Name field uniquely identifies the call accounting information on a network basis for an extended period of time. In a REBOOT record, this is the accounting ID of the first call attempted on the GSX.

Shelf Number (16 bits)	Boot Count (16 bits)	Call ID (32 bits)
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The Boot Count is incremented for each shelf reboot or switch-over.

Start Time in System Ticks

Start time in system ticks - the timestamp of when Setup Request was received (Decimal number 0 - 4294967295).

Node Time Zone

Node Time Zone (up to 23 characters).

This field must be occupied by one of the following strings:

- "gmt"
- "gmt-London"
- "gmtMinus01-Azores"
- "gmtMinus02-MidAtlantic"
- "gmtMinus03-BuenosAires"
- "gmtMinus0430-Caracas"
- "gmtMinus04-Atlantic-Canada"
- "gmtMinus05-Bogota"
- "gmtMinus05-Eastern-US"
- "gmtMinus05-Indiana"
- "gmtMinus06-Central-US"
- "gmtMinus06-Mexico"
- "gmtMinus06-Saskatchewan"

- "gmtMinus07-Arizona"
- "gmtMinus07-Mountain"
- "gmtMinus08-Pacific-US"
- "gmtMinus09-Alaska"
- "gmtMinus10-Hawaii"
- "gmtMinus11-MidwayIsland"
- "gmtPlus01-Berlin"
- "gmtPlus02-Athens"
- "gmtPlus0330-Tehran"
- "gmtPlus03-Moscow"
- "gmtPlus0430-Kabul"
- "gmtPlus04-AbuDhabi"
- "gmtPlus0530-Calcutta"
- "gmtPlus05-Islamabad"
- "gmtPlus06-Dhaka"
- "gmtPlus07-Bangkok"
- "gmtPlus08-HongKong"
- "gmtPlus0930-Adelaide"
- "gmtPlus09-Tokyo"
- "gmtPlus10-Guam"
- "gmtPlus11-Magadan"
- "gmtPlus12-Fiji"
- "gmtPlus12-Kwajalein"

Start Time (Date)

Start Date (mm/dd/yyyy) - GMT date stamp when Setup Request was received. This value is provided by NTP.

In the REBOOT record, this is the date the SBC was last booted.

 This field is combined with the Start Time Field for stream-based CDR logging.

Start Time (Time)

Start Time (hh:mm:ss.d) (d=deci-seconds) - GMT timestamp when Setup Request was received, for example 16:20:38.6. This value is provided by NTP.

In the REBOOT record, this is the time that the SBC was last booted.

 This field is combined with the Start Date Field for stream-based CDR logging.

Old Software Version

The Old Software Version field represents the SBC software running before the Live Software Upgrade occurred. This is a 14-character string using the following format:

Table 2: Old Software Version

Character Positions	Name	Value/Range
1	Version	"V"
2-3	Major Number	00 - 99
4	Dot	"."

5-6	Minor Number	00 - 99
7	Dot	". "
8-9	Release Number	00 - 99
10	Space	" "
11	Build Type	"A" - Alpha "B" - Beta "R" - Release "S" - Special
12-14	Build Number	000 - 999

New Software Version

The New Software Version field represents the GSX/SBC software running after a Live Software Upgrade, and is a 14-character string in the following format:2:

Table 3: New Software Version Field

Character Positions	Name	Value/Range
1	Version	"V"
2-3	Major Number	00 - 99
4	Dot	". "
5-6	Minor Number	00 - 99
7	Dot	". "
8-9	Release Number	00 - 99
10	Space	" "
11	Build Type	"A" - Alpha "B" - Beta "R" - Release "S" - Special
12-14	Build Number	000 - 999

Time Elapsed from Receipt of Setup Message to Policy Server/SoftSwitch Response

[START (8) | STOP (8) | ATTEMPT (8) | INTERMEDIATE (8)]

Time Elapsed from Receipt of Setup Message to the first Policy Server/ Sonus SoftSwitch Response in 10 millisecond ticks (Decimal number 0 - 4294967295).

Time Elapsed from Receipt of Setup Message to Receipt of Alerting/ProcProg


Time Elapsed from Receipt of Setup Message to Receipt of Alerting/Proc/Prog in 10 millisecond ticks (Decimal number 0 - 4294967295).

Time Elapsed from Receipt of Setup Message to Service Established

Time Elapsed from Receipt of Setup Message to Service Established (Receipt of Answer and Completion of Cut-through) in 10 millisecond ticks (Decimal number 0 - 4294967295).

Intermediate Time (Date)

Intermediate Date (mm/dd/yyyy) - GMT timestamp when Intermediate Accounting Timer expired, for example 02/06/1999.

 This field is combined with the Intermediate Time Field when stream-based CDR logging is used.

Intermediate Time (Time)


Intermediate Time (hh:mm:ss.d) (d=deci-seconds) - GMT timestamp when Intermediate Accounting Timer expired, for example 16:20:38.6.

 This field is combined with the Intermediate Date Field when using stream-based CDR logging.

Disconnect Time (Date)

Disconnect Date (mm/dd/yyyy) - GMT date stamp when Disconnect Request was received.

The Disconnect Date field is not set by reading NTP time. Instead, the disconnect date stamp is calculated by adding the elapsed time between the Setup and Disconnect Messages to the Start date stamp. This indirect method ensures the difference between the Start and Disconnect Dates reflects the true duration of the call, even if the NTP server adjusted time of day during the call. See "Disconnect Time (Time)" below for an explanation and example of this method.

 This field is combined with the Disconnect Time Field when using stream-based CDR logging.

Disconnect Time (Time)

Disconnect Time (hh:mm:ss.d) (d=deci-seconds) - GMT time stamp when Disconnect Request was received, for example 16:20:38.6.

The Disconnect Time field is not set by reading NTP time. Instead, the disconnect time stamp is calculated by adding the elapsed time between the Setup and Disconnect Messages to the Start time stamp. This indirect method ensures the difference between the Start and Disconnect Times reflects the true duration of the call, even if the NTP server adjusted time of day during the call.

For example: assume a Setup Message is received at 01:00:00.0 GMT (NTP Time). Then over the next hour the NTP server rolls back NTP time by one minute. Also after exactly one hour (360000 ten-millisecond ticks) a Disconnect message is received, terminating the call. The new NTP time when this disconnect is received is 01:59:00.0 GMT (but would have been 02:00:00.0 GMT if NTP adjustment did not occur). In reality the caller spent 60 minutes on the phone, not 59. Because of the indirect disconnect time calculation described above, the GSX/SBC logs disconnect time as 02:00:00.0 GMT. In summary, the disconnect time is based on the NTP start time plus elapsed time to disconnect, not the NTP disconnect time.

The elapsed time between the Setup and Disconnect Messages can be calculated by adding the "Time Elapsed from Receipt of Setup Message to Service5 Established" and "Call Service Duration" fields. The latter field measures time elapsed from service established to receipt of disconnect message.

 This field is combined with the Disconnect Date Field when using stream-based CDR logging.

Time Elapsed from Receipt of Disconnect to Completion of Call

Time Elapsed from Disconnect receipt to Call Termination completion in 10 millisecond ticks (Decimal number 0 - 4294967295).

Call Service Duration

Call Service Duration in 10 millisecond ticks. This count is initiated when the answer message is received and continues to increment until one leg of the call is released (Decimal number 0 - 4294967295).

Call Disconnect Reason

Call Disconnect Reason (0 - 255).

The [Call Termination Reason Codes](#) are taken from the Q.931 Standard for all codes less than 128.

Codes equal to or greater than 128 are Sonus Reason Codes. The Sonus Reason Codes are never contained in messages sent to the PSTN, but are instead mapped to an appropriate Q.931 Standard code.

The Sonus Reason Codes appear in the system event logs to give specific information about the call failure. These codes may expand in the future.



CAS SSP configuration allows the administrator to specify the disconnect reason codes when errors are encountered during CAS call establishment. Therefore, any of the error codes below could be returned from a CAS call.

If the SBC receives a call release or call disconnect with a cause value that is not listed in the "Call Termination Reason Code" table, then that value is mapped to one of the eight Mapped To cause values listed in the "Mapping by Cause Code Class" table below. In all cases, the Mapped To value is determined by the Class of the returned cause value as shown in the table. The Class is determined by the three high order bits of the 7-bit representation of the cause value.

For example, cause value 14 (PORTED NUMBER) may be represented as 000 1110, which is Class 000. Cause value 52 (OUTGOING CALLS BARRED) is represented as 011 0100, which is class 011. Hence, from "Mapping by Cause Code Class" table, cause value 14 is mapped to cause value 31 (NORMAL_UNSPECIFIED) and cause value 52 is mapped to cause value 63 (SERVICE_OR_OPTION_NOT_AVAILABLE_UNSPECIFIED).

When a mapped Disconnect Code is sent to the preceding switch by the GSX/SBC, that Disconnect Code is also placed in either the "Call Disconnect Reason Transmitted to Egress" or the "Call Disconnect Reason Transmitted to Ingress".

ISUP Call Disconnect Code Mapping

The [Call Disconnect Reason Code Mapping](#) table provides a "single source" reference that, for each ISUP Disconnect Code received, shows the mapped Disconnect Code that is stored in the CDR that is generated by the ISUP, ISDN, H.323, and SIP services respectively. This table also shows the standard(s) that define a particular ISUP Disconnect Code.

SIP to ISUP Disconnect Code Mappings

When SIP rejection responses must be signaled to the PSTN, the mappings shown in the [SIP to ISUP Disconnect Code Mapping](#) table are recommended by RFC 3398 and implemented by Sonus. If the SIP rejection message contains an encapsulated REL message, then the Cause Indicator (CAI) parameter in the generated REL gets set to the value of the CAI parameter received in the encapsulated REL.

Whenever a Reason Header is encountered in any SIP message (such as BYE, CANCEL, 4xx, or 5xx), the GSX/SBC will use the Reason Header cause value for the Disconnect Code.

If the Reason Header is absent from the message, the ISUP Multipurpose Internet Mail Extension (Mime) cause value, if available, is used for the Disconnect Code. Otherwise stated, the GSX/SBC precedence for deriving the Disconnect Code in SIP/ISUP interworking is:

- Reason Header
- ISUP Mime (if cause value is available)

This conforms to RFC 3398 recommendations. You may configure the PSX IP PROFILE object to reverse this mapping behavior, thus conforming to the Q.1912.5 recommendation.

Service Delivered

This field identifies the service delivered for VoIP/Circuit Switched Voice (up to 22 characters).

- For PSTN-to-PSTN calls, such as ISUP-to-ISUP, ISUP-to-ISDN, ISUP-to-CAS calls, this field is "Circuit Switched Voice."
- For calls involving packetized voice, such as GSX/SBC gateway-to-gateway signaling, H.323, and SIP, this field is "VoIP."
- When an ATTEMPT record is generated by a blocking script, this field is set to "UNKNOWN" (since the call was not established, the Service Delivered is undefined or UNKNOWN).
- When an ATTEMPT record is generated after the GSX/SBC routes the call, and then a subsequent switch disconnects the call before the call is established, this field is populated with a valid value.
- When a START, STOP, or INTERMEDIATE record is generated by a successfully established call, this field is populated with a valid value.



The format of this field is an enumeration when using stream-based CDR logging.

Call Direction

This field (up to 12 characters) defines the call direction, such as:

- PSTN-TO-IP
- PSTN-TO-PSTN
- IP-TO-PSTN
- PSTN-TO-TERM
- IP-TO-TERM
- TERM-TO-PSTN
- TERM-TO-IP
- IP-TO-IP

The first stage of a two stage call is either PSTN-TO-TERM or IP-TO-TERM. The second stage of a two stage call is either TERM-TO-PSTN or TERM-TO-IP.

This field conveys the signaling scenario for the call, including whether ingress is a PSTN signaling/IP signaling, and whether egress is PSTN signaling/IP signaling. For example, a call that has ingress signaling as ISUP and egress signaling as ISUP, Call Direction = "PSTN-TO-PSTN". For a call that has ingress signaling as H.323, and egress signaling as ISDN, Call Direction = "IP-TO-PSTN". For a call that has ingress signaling as CAS, and egress signaling as GSX/SBC gateway-to-gateway protocol, Call Direction = "PSTN-TO-IP". A call that has ingress signaling as H.323, and egress signaling as GSX/SBC gateway-to-gateway protocol shows Call Direction = "IP-TO-IP".

When an ATTEMPT record is generated by a blocking script, this field is set to UNKNOWN (since the call is not established, Call Direction is undefined or UNKNOWN).

When an ATTEMPT record is generated after the GSX/SBC routes the call, but a subsequent switch disconnected the call before the call is established, this field is populated with a valid value.

When a START, STOP, or INTERMEDIATE record is generated by a successfully established call, this field is populated with a valid value.



The format of this field is an enumeration when using stream-based CDR logging.

Service Provider

This field (up to 23 characters) is populated with the route partition ID the PSX used for routing a call.

Transit Network Selection Code

This ISUP signaling parameter field (string up to four characters, for example 0288) is populated using either the information received in the IAM (if ingress signaling is ISUP) or information returned by the PSX in a policy response. The PSX obtains information from configuration tables. If the ingress signaling group and the PSX do not provide a value for this field, this field is empty.

Calling Number

The Calling Number Address Digits are sent out on the egress signaling side, and is the end result of any digit manipulations and address translation performed by the PSX during the policy request processing on the calling number received from ingress signaling.

Called Number

The Called Number Address Digits are sent out on the egress signaling side, and is the end result of any digit manipulations and address translation performed by the PSX during the policy request processing on the called number received from ingress signaling.

Extra Called Address Digits

This field is a string not used in routing the call, and is received via Overlap Address Messages such as SAM. This field is significant when the ingress signaling protocol supports overlap addressing (for example, SAM messages in ISUP, INFO messages in ISDN), and contains any digits obtained by the GSX/SBC after successfully routing the call based on digits collected before receiving overlap address signaling message.

For example, if GSX/SBC receives "978-321" in the IAM, we route the call using these digits, and subsequently receive a SAM message with 1234, the accounting records contains:

- Called Number = 978-321
- Extra Called Address Digits = 1234

Number of Called Num Translations Done by This Node

This field defines the number of called number translations performed on the node (length: decimal 0-2).

This and the following fields carry information about TollFree/LNP translation performed by the PSX.

- Called Number Before Translation #1
- Translation Type 1
- Called Number Before Translation #2
- Translation Type 2

For example the called number received by the GSX/SBC in the incoming IAM is 1-800-123-1234. The PSX performs toll-free translation, and the result is 617-123-1234. Subsequently, it performs LNP translation, and the result is 781-123-1000.

In this case, the following applies:

Called Number = 781-123-1000

Number of Called Num Translations Done by This Node = 2

Called Number Before Translation #1 = 1-800-123-1234

Translation Type 1 = 2

Called Number Before Translation #2 = 617-123-1234

Translation Type 2 = 1

In another example, if the called number in the incoming IAM was 617-123-1234, and the PSX performs an LNP translation, the result is 781-123-1000. Consequently, the accounting records contains:

Called Number = 781-123-1000

Number of Called Num Translations Done by This Node = 1

Called Number Before Translation #1 = 617-123-1234

Translation Type 1 = 1

Called Number Before Translation #2 – Empty

Translation Type 2 - 0



Although the Called Number Before Translation #1 field is the called number before any address translations are performed., it also represents the called number after any digit manipulations performed by the PSX. To see the called number received from ingress signaling (the called number before any digit manipulation is performed by the PSX), see "Dialed Number" . This field is populated in an ATTEMPT record in the absence of a PSX query response if the preceding switch performs the translation and the call is torn down before the PSX response is received. The presence of the M bit in the received ISUP Initial Address Message (IAM) External Furnish Charging Info (FCI) message indicates the preceding switch performed the translation.

Called Number Before Translation #1

This field contains the called number before the first translation is performed, and carries information about TollFree/LNP translation performed by the PSX.

This field is empty ("") if no translations are performed, and occurs when the Translation Type 1 field is "0" (CPC_ADDR_TRANS_NONE) See "Translation Type 1" for details.

This field is also empty ("") when all of the following conditions are true:

- The dialed number is ported (an LNP query is performed).
- The SCP response to LNP query did not return an LRN (i.e. translated number).
- The Translation Type 1 field is "1" (CPC_ADDR_TRANS_LNP); that is, the LNP was the first translation attempted by the PSX.
- Translation is turned OFF via configuration.

This field is populated in an ATTEMPT record in the absence of a PSX query response if the preceding switch performs the translation and call is torn down before PSX response is received. The presence of the M bit in the received ISUP Initial Address Message (IAM) External Furnish Charging Info (FCI) message indicates that the preceding switch has performed the translation.

Translation Type 1

This field carries information about the first translation performed by the PSX:

- 0 - CPC_ADDR_TRANS_NONE (no translation performed)
- 1 - CPC_ADDR_TRANS_LNP (Local Number Portability)
- 2 - CPC_ADDR_TRANS_TOLLFREE (8xx Numbers)
- 3 - CPC_ADDR_TRANS_PRIVATE

Called Number Before Translation #2

This field contains the called number before the second translation is performed, and carries information about TollFree/LNP translation performed by the PSX.

This field is empty ("") if less than two translations are performed, and occurs when Translation Type 2 field (see "Translation Type 2") is "0" (CPC_ADDR_TRANS_NONE).

This field is also empty ("") when all of the following conditions are true:

- The dialed number is ported (an LNP query is performed).
- The SCP response to the LNP query did not return an LRN; that is, a translated number.
- The Translation Type 2 field is "1" (CPC_ADDR_TRANS_LNP); that is, the LNP is the second translation attempted by the PSX.
- Translation is turned OFF via configuration.

Translation Type 2

This field carries information about the second translation performed by the PSX:

- 0 - CPC_ADDR_TRANS_NONE (no translation performed)
- 1 - CPC_ADDR_TRANS_LNP (Local Number Portability)
- 2 - CPC_ADDR_TRANS_TOLLFREE (8xx Numbers)
- 3 - CPC_ADDR_TRANS_PRIVATE

Billing Number

This field is a string of up to 30 characters. The record is populated using the following precedence:

- If SCP returns a billing number, it takes precedence over the others.
- If billing number is present in the incoming signaling message, then it is used.
- If there is no billing number returned by SCP or in the incoming signaling message, the billing number configured against the ingress trunk on the PSX is used.

Route Label

This record is a string of up to 23 characters. The content of this record depends upon the type of call route that is returned from the PSX:

- If a normal route is returned, this field contains the ROUTING_LABEL pointed to by the route record. The Overflow and Fallback labels are not present.
- If an SCP produced route made up of Gateway Name and Trunkgroup ID (as provisioned on the PSX) is returned, this field is empty ("").
- If an SCP produced route made up of Switch ID and Trunkgroup ID (as provisioned on the PSX) is returned, this field will contain the Route Label (RL) corresponding to the first Switch ID/Trunkgroup.

The PSX supports to send RL for each route of a call in the policy response message to the SBC. The flag `Enable Per Route Routing Label` is added to the **Feature Control Profile (FCP)** entity screen. When the flag `Enable Per Route Routing Label` is enabled on the PSX, the PSX returns the RL for each route. The SBC stores these RLs in the CDR records for each call.

- When the flag `Enable Per Route Routing Label` is enabled, the CDR RL field is populated from the per-route data returned from the PSX.
- When the flag `Enable Per Route Routing Label` is disabled, the SBC stores the per-call routing label returned from the PSX in the CDR Routing Label field.

Route Attempt Number

The Route Attempt Number (Decimal number 1 - 65535).

Route Selected

The route selected:

- Gateway Name (up to 27 characters) Example: SBX140
- TG Name (up to 23 characters) Example: IPTG-NAV2

If Gateway Name is unknown, Gateway IP Address displays according to address type:

- IPv4 address—dotted decimal format (for example 128.1.22.233 (up to 15 characters))
- IPv6 address—eight 16-bit hexadecimal values separated by colons (for example 1280:1276:3350:2224:2222:3333:8888:1245).



The Route Selected field is not populated on the egress GW when making GW-GW calls.

Egress Local Gateway Signaling IP Address

For packet based egress trunk groups, the IPv4 or the IPv6 address can be used for egress signaling on the local SBC.

- For IPv4 address type, use the dotted decimal format (for example, 128.1.22.233)
- For IPv6 address type, use the hexadecimal format (for example, 3ffe:1900:4545:3:200:f8ff:fe21:67cf (up to 39 characters)).

The local SBC generates this accounting record; the device at the far end of the packet network is the remote address.

If the egress trunk group is circuit-based, this field is empty ("").

Egress Remote Gateway Signaling IP Address

For packet-based egress trunk groups, the IPv4 or the IPv6 address can be used for egress signaling on the far end of the packet network.

- For IPv4 address type, use the dotted decimal format (for example, 128.1.22.233)
- For IPv6 address type, use the hexadecimal format (for example, 3ffe:1900:4545:3:200:f8ff:fe21:67cf (up to 39 characters)).

The local GSX/SBC generates this accounting record; the device at the far end of the packet network is the remote address. The device at this address may be another GSX/SBC gateway, and H.323 device, or a SIP device.

If the egress trunk group is circuit based, this field is empty ("").

Ingress Trunk Group Name

The origination gateway logs the name of the external trunk group which exists between the ingress network and the origination gateway in this field. The destination gateway logs the name of the internal IP trunk group which exists between the origination gateway and destination gateway in this field.

Figure 1: Example Trunk Groups



Ingress PSTN Circuit End Point

 Applicable only for PSTN-IP and PSTN-PSTN calls.

Ingress PSTN Circuit End Point field – Shelf (1-6):Slot (1-16):Port (1-84):DS0 (1-32):CIC (1-65535):Local Point Code (32 bit HEX format): Remote Point Code (32 bit HEX format).

The Port range of 1-84 applies to calls that are assigned to a CNS60 or CNS71 module. 1-28 are the T1 circuits on the first T3, 29-56 are the T1 circuits on the second T3, and 57-84 are the T1 circuits on the third T3.

Ingress IP Circuit End Point

Ingress IP Circuit End Point field applies to both local and remote IP addresses.

- Local IP Address: Port (0-65535)

- Remote IP Address: Port (0-65535)

The IP address can be in IPv4 or IPv6 format. For IPv4 address type, use dotted decimal format. For example, 128.1.22.233 (up to 15 characters).

For IPv6 address type, use hexadecimal format. For example, 3ffe:1900:4545:3:200:f8ff:fe21:67cf (up to 39 characters).



If NATP or ICE are enabled on the call then the Ingress IP information is set to 127.0.0.0:5004 in the START/ATTEMPT/INTERMEDIATE CDRs. This happens because STUN messages happen after the INVITE processing.

The STOP record contains the correct remote IP address. Field 23 of the SIP/SIP-I protocol variant string Original Peer SDP address for NATP or ICE contains the peer IP address as received in the SDP but unconfirmed by STUN messaging.

The default IP address 127.0.0.0 is taken as remote IP address and the default port 5004 is taken as remote port when a NAT call is made without sending media from the endpoints.

Egress PSTN Circuit End Point



Applicable only for IP-PSTN and PSTN-PSTN calls.

Egress PSTN Circuit End Point field – Shelf (1-6):Slot (1-16):Port (1-84):DS0 (1-32):CIC (1-65535):Local Point Code (32 bit HEX format): Remote Point Code (32 bit HEX format).

The Port range of 1-84 applies to calls that are assigned to a CNS60 or CNS71 module. 1-28 are the T1 circuits on the first T3, 29-56 are the T1 circuits on the second T3, and 57-84 are the T1 circuits on the third T3.

Egress IP Circuit End Point

Egress IP Circuit End Point field applies to both local and remote IP addresses.

- Local IP Address: Port (0-65535)
- Remote IP Address: Port (0-65535)

The IP address can be in IPv4 or IPv6 format. For IPv4 address type, use dotted decimal format. For example, 128.1.22.233 (up to 15 characters).

For IPv6 address type, use hexadecimal format. For example, 3ffe:1900:4545:3:200:f8ff:fe21:67cf (up to 39 characters).



The Remote IP Address and Port number may not be available in certain call attempt situations captured in ATTEMPT records. Examples include when the remote gateway has no available routes, or when address information is not contained in a backwards release message. In these situations the IP Address and Port display as "0.0.0.0:0". The remote data is always available for completed calls (that is, START, INTERMEDIATE and STOP records).

The default IP address 127.0.0.0 is taken as remote IP address and the default port 5004 is taken as remote port when a NAT call is made without sending media from the endpoints.

Ingress Number of Audio Bytes Sent

Number of Audio Bytes Sent as recorded by the ingress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Ingress Number of Audio Packets Sent

Number of Audio Packets Sent as recorded by the ingress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Ingress Number of Audio Bytes Received

Number of Audio Bytes Received as recorded by the ingress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Ingress Number of Audio Packets Received

Number of Audio Packets Received as recorded by the ingress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Originating Line Information (OLIP)

Originating Line Information (OLIP), also known as info digits which are expressed as decimal values.

The values in the following table match ANSI T1.113 (ANSI ISUP).

Table 4: OLIP Parameters

Names	Value
OLI_POTS	0
OLI_ONI	1
OLI_ANI_FAILURE	2
OLI_HOTEL	6
OLI_SPECIAL_OPERATOR	7
OLI_RSTRCTD	8
OLI_TEST1	10
OLI_AIOD	20
OLI_IDENTIFIED	23
OLI_TOLLFREE (Non Pay phone originated 800 call) If the "Reset OLIP" switch is set in the PSX Signaling Profile and a tollfree translation occurs, then this code may be placed into this field.	24
OLI_PAYPHONE_TOLLFREE (Pay phone originated 800 call). If the "Reset OLIP" switch is set in the PSX Signaling Profile and a tollfree translation occurs, then this code may be placed into this field.	25
OLI_COIN	27
OLI_INMATE	29
OLI_TELCO_OPERATOR	34
OLI_OUTWATS	52
OLI_TRS	60
OLI_CELLULAR_TYPE1	61

OLI_CELLULAR_TYPE2	62
OLI_CELLULAR_ROAMING	63
OLI_PRIVATE_PAYSTATION	70
OLI_RSTRCTD_COINLESS	78
OLI_PRIVATE_VIRTUAL_NW	93
OLI_PINK_PUBLIC_PHONE (Japan only)	94
OLI_PINK_OTHER_PHONE (Japan only)	95
Reserved	96-255

Jurisdiction Information Parameter

In Local Number Portability (LNP) applications, Jurisdiction Information Parameter (JIP) provides the Local Routing Number (LRN) assigned to the originating number, which is then used to determine proper billing for the call (string up to 15 characters).

Carrier Code

The carrier identification code (up to five characters) of the carrier used for carrying the call on the egress trunk (for example 0288). This code is provided by the ingress signaling group from the appropriate parameters in its signaling protocol. For example, ISUP obtains it from the Carrier Identification Code parameter in an IAM message, or from the PSX in a policy response. If the ingress signaling group and the PSX do not provide a value, this field is empty.


Call Group ID

An internal identifier (up to 32 bits of hexadecimal data) bound to each call used by the GSX/SBC to group calls associated to each other. Multiple calls (with different Global Call IDs) involved in transfer and redirection scenarios have the same Call Group ID.

Example: "0x0000002F"

Script Log Data

A string that contains data logged by a Sonus CPL script that was executed for the call.

Multiple variables may be logged within this field, with each variable data separated from the next variable by a configurable separator. The default value for the separator is slash . The data for each script variable includes the variable ID and the variable value, with a ":" as the separator. For example, the data string:

12:9786928999/108:12345

indicates data for two variables, variable ID - 12, and variable ID - 108. The value of variable 12 is 9786928999, and the value of variable 108 is 12345.

This field is applicable only if a Sonus CPL script is executed for the call. The sub-fields within this field are all variables associated with the CPL script, and are a concatenation of the variables requested by the script to be logged. This field is populated only if a CPL script was executed for the call, and the script requested logging of script variables via the LOG SIBB in the script.

Time Elapsed from Receipt of Setup Message to Receipt of Exit Message

The time elapsed from receipt of setup message to receipt of exit message in 10 ms ticks (decimal number 0 - 4294967295).

Time Elapsed from Receipt of Setup Message to Generation of Exit Message

Time Elapsed from Receipt of Setup Message to Generation of Exit Message (EXM) in 10 ms Ticks (Decimal number 0 - 4294967295).

Calling Party Nature of Address

The type of Calling Party number (decimal value).

For more information on the nature of the address enumeration values, refer to [Nature of Address Enumeration Values](#).

Called Party Nature of Address

The type of Called Party number (decimal value).

For more information on the nature of the address enumeration values, refer to [Nature of Address Enumeration Values](#).

Ingress Protocol Variant Specific Data

A string of up to 1849 characters or empty with delimiters "". Whenever any ingress service group has Protocol Variant Specific Data to log, this data is logged to this field. See the following pages for specific variants:

- [H.323 Signaling Sub-field Descriptions](#)
- [SIP-I Signaling Sub-field Descriptions](#)
- [SIP Variant Sub-field Descriptions](#)
- [Gateway-to-Gateway Signaling Sub-field Descriptions](#)



During a Live Software Update (LSWU), Ingress and Egress Protocol Variant Specific Data may be logged interchangeably to either this field or to the Egress Protocol Variant Specific Data field. This indeterminate behavior persists until after the LSWU is complete as indicated by the SW_CHANGE record.

Ingress Signaling Type

The ingress signaling type (decimal value).

For signaling type enumeration values, refer to [Signaling Type Enumeration Values](#).

Egress Signaling Type

The egress signaling type (decimal value).

For signaling type enumeration values, refer to [Signaling Type Enumeration Values](#).

Ingress Far End Switch Type

The ingress far end switch type (decimal value).

For mor information on far end switch type, refer to [Far End Switch Type Enumeration Values](#).

Egress Far End Switch Type

The egress far end switch type (decimal value).

For more information on far end switch type, refer to [Far End Switch Type Enumeration Values](#).

Far End Ingress TG Carrier Code

The Field content depends upon whether the PSX is supporting a JAPAN variant.

If the JAPAN variant is being supported, then this field is the "Own Carrier ID" that is provisioned against the ingress trunk group, and is a string of up to five characters, for example "0288".

If a Non-JAPAN variant is being supported, then this field is the Carrier Code of the carrier that owns the Far End of the ingress trunk group. This is a string of up to 5 characters.

The "Trunk Ownership Fields in START/STOP Records" figure illustrates a typical PSTN-to-PSTN network in which the local GSX/SBC is writing accounting records to its NFS (DSI Level 0) file system. This figure depicts the Carrier Identification Codes that are contained in the Carrier Code of the Carrier that Owns the Far End of the Ingress/Egress Trunk Group fields.


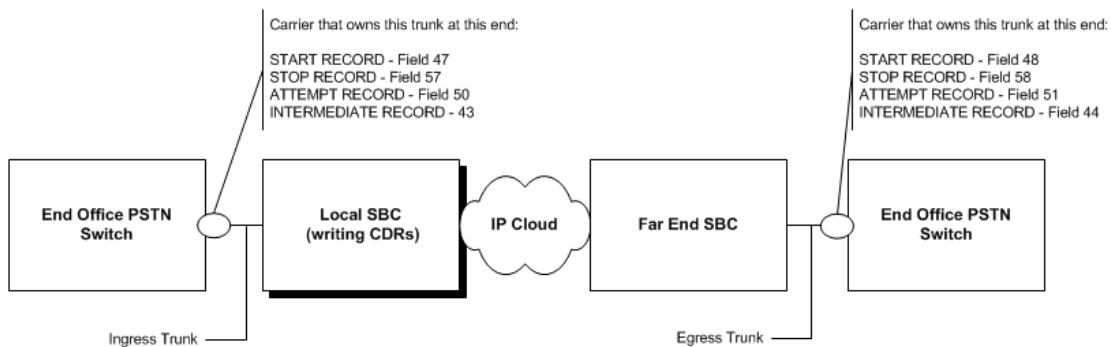
 This depiction applies to all PSTN-to-PSTN networks except Japan.

Figure 2: Trunk Ownership Fields in START/STOP Records



Field content depends upon whether the PSX is supporting a JAPAN variant.

This field is a string of up to five characters, and is populated using the following precedence:

- If a Non-JAPAN PSX variant is being supported, and the SCP returns digits within the AMADigitsDialedWC, and if the Context Identifier Digits within the AMADigitsDialedWC are "003", then these (SCP returned) digits are placed in the record.
- If a Non-JAPAN PSX variant is being supported and the above conditions are not true, then the Carrier Code of the Carrier that owns the Far End of the egress trunk group is placed in the record. See Figure A-2, "Trunk Ownership Fields in START/STOP Records" for more explanation about this Carrier Code.
- If a JAPAN PSX variant is being supported, then the "Own Carrier ID" that is provisioned against the egress trunk group is placed in this record.

In all cases, a string of up to five characters is placed in this record (for example "0288").

Calling Party Category

The Calling Party Category (CPC) field is a hexadecimal value between 0x00 and 0xff. All letters are lower case and leading zeros are always displayed. The length is always four characters, two for the "0x" and two more for the CPC value.

The [Calling Party Category Enumeration Values](#) table lists the valid CPC hex values.

Dialed Number

On the ingress GSX/SBC, this is the actual dialed number contained in the incoming setup message (IAM) received by the GSX/SBC from the ingress signaling group before any digit manipulation or address translations are performed by the ERE.

On the egress GSX/SBC, this is the called number from the Gateway-to-Gateway signaling message, and contains digit manipulations performed by the ERE.

Carrier Selection Information

The ISUP Carrier Selection Information parameter (decimal value) populated either by the ingress ISUP SG or by the PSX in a policy response. If neither the ingress ISUP SG or PSX supplies this field, it takes a value of "0".

The following table lists the valid decimal values.

Table8: Carrier Selection Information Enumeration Values

Table 5: Carrier Selection Inff

Carrier Selection	Value
Carrier Selection is not present or unknown. This may indicate internal routing was used.	0
CPC_OP_CARRIER_SELECTION_NO_INDICATION	1
CPC_OP_CARRIER_SELECTION_PRESUB_NOT_INPUT	2
CPC_OP_CARRIER_SELECTION_PRESUB_INPUT	3
CPC_OP_CARRIER_SELECTION_PRESUB_NO_INDICATION	4
CPC_OP_CARRIER_SELECTION_NOT_PRESUB_INPUT	5

Called Number Numbering Plan

A decimal value indicating the numbering plan type used for the called number representation. It could be one of ISDN/DATA/TELEX/PRIVATE. The numbering plan for the called number is provided by the ingress signaling group (based on parameters obtained in its signaling messages, or using defaults appropriate to the protocol type), or provided by the PSX in the PSX in the policy response (if it provides a called number in the policy response).

The Numbering Plan Indicator (NPI) range includes ISUP Reserve/Spare values. The block of ISUP NPI enumerations (0 to 7) is appended to the existing Sonus enumerations of 0-7. The combined NPI valid decimal value range is shown in the below table.

NPI values less than "8" are interpreted as Sonus NPIs. Values greater than "7" are ISUP (Spare/Reserve) NPIs, to be derived by subtracting "8" from the record value. For example, a record value of "10" is an ISUP 2 NPI (10-8).

ISUP NPIs which map to a Sonus NPI are generated without any offset.

Table 6: Address Numbering plan Enumerations

Address Numbering Plan	Value
CPC_ADDR_NUMBERING_PLAN_INVALID	0
CPC_ADDR_NUMBERING_PLAN_ISDN	1
CPC_ADDR_NUMBERING_PLAN_DATA	2

CPC_ADDR_NUMBERING_PLAN_TELEX	3
CPC_ADDR_NUMBERING_PLAN_PRIVATE	4
Reserved for Sonus Use	5
Reserved for Sonus Use	6
Reserved for Sonus Use	7
ISUP NPI 2	10
ISUP NPI 6	14
ISUP NPI 7	15

Generic Address Parameter

This field is the original called number if LNP is performed by a switch preceding the GSX/SBC. This field is applicable only if the ingress signaling group is ISUP, and if the IAM indicates that LNP translation was performed by a switch preceding the GSX/ SBC. In this case, the field contains the contents of the ISUP Generic Address Parameter (GAP) digits which contain the called number before the LNP translation is done by the prior switch, as per ISUP protocol.

Disconnect Initiator

This field (decimal in range 0-4) identifies how the initiator session is closed:

- 0 - INTERNAL

Released internally by the call control entity in the GSXSBC, due either to some error in the processing of the call or to a release initiated by a party on the peer call in a multiparty feature such as ISDN Two B-Channel Transfer or SS7 Release Link Trunking.

- 1 - CALLING PARTY

Released by the ingress signaling group.

- 2 - CALLED PARTY

Released by the egress signaling group.

- 3 - INTERNAL EARLY

Released internally by GSX/SBC at early call attempt stage. Applies only to the ATTEMPT record.

- 4 - CALLING PARTY EARLY

Released by the calling party at an early call attempt stage. Applies only to the ATTEMPT record.

EARLY disconnects may occur before a PSX Policy Request is sent or a PSX Policy Response is received due to an incomplete setup message or a setup message immediately followed by a disconnect from the calling party.

Call Release and/or SIP Response Codes

ATTEMPT records

The following table describes the mapping of CDR field numbers and their call disconnect reasons for ATTEMPT records.

Table 7: CALL RELEASE and/or SIP RESPONSE Codes recorded in the CDR for ATTEMPT records


Field Number	Present in Raw CDR	Disconnect Initiator	Call Disconnect Reason
12	Yes	Calling	<p>Call Disconnect Reason is derived from (from high to low priority) any one of the following:</p> <ol style="list-style-type: none"> 1. Q.850 code in the received Reason Header on ingress Trunk Group (provided Discard Received Reason Header is unchecked in the ingress IPSP) 2. Cause value in ISUP MIME of SIP-T is received on ingress Trunk Group 3. SIP - to - CPC mapping configured on the ingress Trunk Group (for SIP response received on ingress Trunk Group) 4. 16 for CANCEL without Reason header is received on the ingress SIP/SIP-T Trunk Group 5. 31 for CANCEL without Reason header is received on the ingress SIP-I Trunk Group
		Called	<p>Call Disconnect Reason is derived from (from high to low priority) any one of the following:</p> <ol style="list-style-type: none"> 1. Q.850 code in received Reason Header on the egress Trunk Group (provided Discard Received Reason Header is unchecked in egress IPSP) 2. Cause value in ISUP MIME of SIP-T is received on the egress Trunk Group 3. SIP - to - CPC mapping configured on the egress Trunk Group (for SIP response is received on egress Trunk Group)
		Internal	<p>Contains internal CPC value that is used to release the call (typically cause value >127). GSX/SBC does not include CPC > 127 in the message out (for example, in ISUP MIME or Q.850 in the reason header). Instead, it maps it to an appropriate Q.931 standard release code provided the code is not overwritten by CPC to SIP cause map profile. For more information, refer to Call Disconnect Reason Code Mapping.</p>
<ul style="list-style-type: none"> • 45 (Ingress Protocol Variant Specific Data > Status Message for Call Release) • 59 (Egress Protocol Variant Specific Data > Status Message for Call Release) 	Yes	Calling	<ol style="list-style-type: none"> 1. Ingress PVSD status message indicates that SIP Status Response or CAN (for CANCEL) received on the ingress SIP/SIP-T/SIP-I Trunk Group 2. Egress PVSD status message indicates that SIP Status Response is transmitted to the egress SIP/SIP-T/SIP-I Trunk Group
		Called	<ol style="list-style-type: none"> 1. Egress PVSD status message indicates that SIP Status Response is received on the egress SIP/SIP-T/SIP-I Trunk Group 2. Ingress PVSD status message indicates that SIP Status Response is transmitted to the ingress SIP/SIP-T/SIP-I Trunk Group

us Message for Call Release)		Internal	<ol style="list-style-type: none"> 1. Egress PVSD status message indicates that SIP Status Response is transmitted to the egress SIP/SIP-T/SIP-I Trunk Group 2. Ingress PVSD status message indicates that SIP Status Response is transmitted to the ingress SIP/SIP-T/SIP-I Trunk Group
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STOP records

The following table describes the mapping of CDR field numbers and their call disconnect reasons for STOP records.

Table 8: CALL RELEASE and/or SIP RESPONSE Codes recorded in the CDRs For STOP records

Field Number	Present in Raw CDR	Disconnect Initiator	Call Disconnect Reason
15	Yes	Calling	<p>Call Disconnect Reason is derived from (from high to low priority) any one of the following:</p> <ol style="list-style-type: none"> 1. Q.850 code in Reason Header of received BYE on the ingress Trunk Group (provided Discard Received Reason Header is unchecked in ingress IPSP) 2. Cause value in ISUP MIME of SIP-T is received on the ingress Trunk Group 3. 16 for BYE without Reason header is received on the ingress Trunk Group
		Called	<p>Call Disconnect Reason is derived from (from high to low priority) any one of the following:</p> <ol style="list-style-type: none"> 1. Q.850 code in Reason Header of received BYE message on the egress Trunk Group (provided Discard Received Reason Header is unchecked in egress IPSP) 2. Cause value in ISUP MIME of SIP-T is received on the egress Trunk Group 3. 16 for BYE without Reason header is received on the egress Trunk Group
		Internal	<p>Contains internal CPC value that is used to release the call (typically cause value >127). GSX/SBC does not include CPC > 127 in the message out (for example, in ISUP MIME or Q.850 in the reason header). Instead, it maps it to an appropriate Q.931 standard release code provided the code is not overwritten by CPC to SIP cause map profile. For more information, refer to Call Disconnect Reason Code Mapping.</p> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-top: 10px;"> <p> For SIP-I (Q.1912.5), cause value in ISUP-MIME takes higher precedence over Q.850 code in reason header in this scenario.</p> </div>

<ul style="list-style-type: none"> • 52 (<i>Ingress Protocol Variant Specific Data > Status Message for Call Release</i>) • 69 (<i>Egress Protocol Variant Specific Data > Status Message for Call Release</i>) 	Yes	Calling	<ol style="list-style-type: none"> 1. Ingress PVSD status message indicates that BYE is received on the ingress SIP/SIP-T/SIP-I Trunk Group 2. Egress PVSD status message indicates that BYE is transmitted to the egress SIP/SIP-T/SIP-I Trunk Group
		Called	<ol style="list-style-type: none"> 1. Egress PVSD status message indicates that BYE is received on the egress SIP/SIP-T/SIP-I Trunk Group 2. Ingress PVSD status message indicates that BYE is transmitted to the ingress SIP/SIP-T/SIP-I Trunk Group
		Internal	<ol style="list-style-type: none"> 1. Egress PVSD status message indicates that BYE is transmitted to the egress SIP/SIP-T/SIP-I Trunk Group 2. Ingress PVSD status message indicates that BYE is transmitted to the ingress SIP/SIP-T/SIP-I Trunk Group

Ingress Number of Packets Recorded as Lost

The number of packets recorded as a lost packet by the ingress DSP/NP. This field is a decimal representation of a 32-bit number (applicable to RTCP statistics for VoIP calls only).

Egress Packets Lost

The number of packets recorded as a lost packet by the egress DSP/NP. This field is a decimal representation of a 32-bit number (applicable to RTCP statistics for VoIP calls only).

Ingress Interarrival Packet Jitter

The maximum interarrival packet jitter time (in millisecond) recorded by the ingress DSP/NP. This field is a decimal representation of a 16-bit number, hence must be in the range 0-65535 (This is applicable to RTCP statistics for VoIP calls only).

Ingress Last Measurement for Latency

The last measurement for latency (in milliseconds) as recorded by the ingress DSP. This field is a decimal representation of a 16-bit number, hence must be in the range 0-65535 (applicable to RTCP statistics for VoIP calls only).

Egress Trunk Group Name

This field is applicable for IP-PSTN, PSTN-PSTN, PSTN-IP, and IP-IP calls. (String up to 23 characters.)

The origination gateway logs the name of the internal IP trunk group which exists between the destination gateway and the origination gateway in this field. The destination gateway logs the name of the external trunk group which exists between the destination gateway and the egress network in this field.

Figure XXX illustrates the basic call flow between the Ingress trunk group, SBC and Egress trunk group.

Egress Protocol Variant Specific Data

The egress service group protocol variant-specific data. This field is a string of up to 1849 characters, or empty with delimiters "". Whenever any egress service group has protocol variant-specific data to log, the data is logged to this field. See the following pages for specific variants:

- [H.323 Signaling Sub-field Descriptions](#)
- [Release Link Trunking Sub-Fields](#)
- [SIP-I Signaling Sub-field Descriptions](#)
- [SIP Variant Sub-field Descriptions](#)
- [Gateway-to-Gateway Signaling Sub-field Descriptions](#)



During a Live Software Update (LSWU), Ingress and Egress Protocol Variant Specific Data may be logged interchangeably to either this field or to the Ingress Protocol Variant Specific Data field. This indeterminate behavior will persist until the LSWU completes as indicated by the SW_CHANGE record.

Incoming Calling Number

This field represents the calling number presented to the SBC prior to any digit manipulation or translation by the PSX/ERE. In other words, it is the Calling Number in the Incoming Signaling Message (IAM/SETUP etc.) to the SBC translation.

Intermediate Record Reason

This field indicates the reason the Intermediate Record is generated:

- 0 - (PERIODIC) The intermediate accounting interval expired for this call, a normal event.
- 1 - (MTP_PAUSE_EVENT) An SS7 Server link failure occurred.
- 2 - (SS7_CONNECTION_FAILURE) The connection to the SGX was lost.
- 3 - (MALICIOUS CALL TRACE) A Malicious Call Trace was initiated (BT-IUP only).
- 4 - (Telcordia Long Duration) The call was active, and had been active for a time which is more than the configured threshold value, at the specified Telcordia Long Duration Generation Time.

AMA Call Type

The Automatic Message Accounting (AMA) Call Type field (also known as AMA Call Code) is provided by the Sonus PSX and determines how the call is billed, such as Flat Rate, Local Measured, EAS, etc. If AMA Call Type is not available, this field is empty (""). (3-digit decimal number in the range 000-999, with leading zeroes always present.)

Message Billing Index (MBI)

This field is determined from the class of service of the calling subscriber together with the office to which his call is directed, and constitutes the basis for determining the charging rate on bulk billed calls where the called number is not recorded in AMA field.

This field is provided by the Sonus PSX. If MBI is not available, this field is empty (""). (3-digit decimal number in the range 000-999, with leading zeroes always present.)

Originating LATA

The Originating Local Access and Transport Area (LATA) field. A LATA is a geographical area defined by the FCC within which a local telephone company may offer telecommunications services. The Originating LATA is provided by the Sonus PSX in the Policy Response. (3-character string.)

Route Index Used

This field signifies which route in the policy response was used for this call. If no routes were successful, then this field is empty (""). The policy response can only hold from 1 to 10 routes. See also [Cumulative Route Index](#).

The Route Index can be combined with the Routing Label (see [Route Label](#)) to determine the chosen route.



This field must be used when indexing route specific fields within the PSX Billing Info Field. See "[PSX Billing Information](#)".

Calling Party Number Presentation Restriction

This field (decimal number, 0-4) indicates the calling party number Presentation Restriction using one of the values below:

- 0 - INVALID
- 1 - ALLOWED
- 2 - RESTRICTED
- 3 - NUMBER_UNAVAILABLE
- 4 - SPARE

Incoming ISUP Charge Number

This field is extracted from the ISDN User Part (ISUP) Initial Address Message (IAM) received on an SS7 trunk. If the number is not available this field is empty (""). (String up to 30 characters.)

Incoming ISUP Charge Number NOA

The Incoming ISUP Charge Number Nature of Address (NOA) field (decimal number in the range 0-255).

Dialed Number NOA

The Dialed Number Nature of Address (NOA) field. (Decimal number from 0-255.)

Ingress Codec Type

This field defines the Ingress Codec type, and consists of a string with a maximum of six characters (the two colons in the field are included in this count) in the following format. If audio encoding is not applicable, this field is set to "0".

`<networkType>:<codecType>:<audioEncoding>`

Examples:

- A G.711 packet call with aLaw encoding will be displayed as: "P:1:2"
- A T.38, version 0 call will be displayed as: "P:6:0"
- A T.38, version 3 call will be displayed as: "P:6:3"

See the [table](#) for a listing of Ingress Codec Type sub-field variables.

Egress Codec Type

This field defines the Egress Codec Type, and consists of a string with a maximum of six characters (the two colons in the field are included in this count) in the following format.

`<networkType>:<codecType>:<audioEncoding>`

Examples:

- A G.711 packet call with aLaw encoding will be displayed as: "P:1:2"
- A T.38, version 0 call will be displayed as: "P:6:0"
- A T.38, version 3 call will be displayed as: "P:6:3"

See the [table](#) for a listing of Egress Codec Type sub-field variables.

Table 9: Ingress and Egress Codec Type Sub-Field Variables

Sub-Field	Description
Network Type	<ul style="list-style-type: none"> • C - Circuit Network • P - Packet Network
Codec Type	<ul style="list-style-type: none"> • 0 - PKT_ENCODING_NULL • 1 - PKT_ENCODING_G711 • 2 - PKT_ENCODING_G711_SILENCE_SUPPRESS • 3 - PKT_ENCODING_G723 • 4 - PKT_ENCODING_G729A • 5 - PKT_ENCODING_G729AB • 6 - PKT_ENCODING_FAX_RELAY • 7 - PKT_ENCODING_G723A • 8 - PKT_ENCODING_G726 • 9 - PKT_ENCODING_ILBC • 10 - PKT_ENCODING_ILBCSS • 11 - PKT_ENCODING_G722 • 12 - PKT_ENCODING_G722_SILENCE_SUPPRESS • 13 - PKT_ENCODING_G7221 • 14 - PKT_ENCODING_G7221SS • 15 - PKT_ENCODING_G728 • 16 - PKT_ENCODING_G728SS • 17 - PKT_ENCODING_AMR_BW_EFFICIENT • 18 - PKT_ENCODING_AMR_OCTET_ALIGNED • 19 - PKT_ENCODING_AMR_CRC • 20 - PKT_ENCODING_AMR_CRC_INTERLEAVING • 21 - PKT_ENCODING_AMR_CRC_ROBUST_SORTING • 22 - PKT_ENCODING_AMR_CRC_INTERLEAVING_ROBUST_SORTING • 23 - PKT_ENCODING_AMR_INTERLEAVING • 24 - PKT_ENCODING_AMR_INTERLEAVING_ROBUST_SORTING • 25 - PKT_ENCODING_AMR_ROBUST_SORTING • 26 - PKT_ENCODING_AMRWB_BW_EFFICIENT • 27 - PKT_ENCODING_AMRWB_OCTET_ALIGNED • 28 - PKT_ENCODING_AMRWB_CRC • 29 - PKT_ENCODING_AMRWB_CRC_INTERLEAVING • 30 - PKT_ENCODING_AMRWB_CRC_ROBUST_SORTING • 31 - PKT_ENCODING_AMRWB_CRC_INTERLEAVING_ROBUST_SORTING • 32 - PKT_ENCODING_AMRWB_INTERLEAVING • 33 - PKT_ENCODING_AMRWB_INTERLEAVING_ROBUST_SORTING • 34 - PKT_ENCODING_AMRWB_ROBUST_SORTING • 35 - PKT_ENCODING_EVRC (Interleaved/Bundled format) • 36 - PKT_ENCODING_EVRC0 (Header-free format) • 37 - PKT_ENCODING_EVRC1 (Compact-bundled format, Half-rate in single rate mode) • 38 - PKT_ENCODING_EVRC1_FR (Compact-bundled format, Full-rate in single rate mode) • 39 - PKT_ENCODING_EVRCB (Interleaved/Bundled format) • 40 - PKT_ENCODING_EVRCB0 (Header-free format) • 41 - PKT_ENCODING_EVRCB1 (Compact-bundled format, Half-rate in single rate operation)

	<ul style="list-style-type: none"> • 42 - PKT_ENCODING_EVRCB1_FR (Compact-bundled format, Full-Rate in single rate operation) • 43 - PKT_ENCODING_EFR • 46 - PKT_ENCODING_G726SS • 49 - PKT_ENCODING_SILK_8 • 50 - PKT_ENCODING_SILK_12 • 51 - PKT_ENCODING_SILK_16 • 52 - PKT_ENCODING_SILK_24 • 55 - PKT_ENCODING_G7291 • 56 - PKT_ENCODING_BV16 • 57 - PKT_ENCODING_BV32 • 58 - PKT_ENCODING_BV32_FEC • 59 - PKT_ENCODING_SPEEX_8 • 60 - PKT_ENCODING_SPEEX_16 • 61 - PKT_ENCODING_SPEEX_32 • 62 - PKT_ENCODING_SPEEX_FEC_8 • 63 - PKT_ENCODING_SPEEX_FEC_16 • 64 - PKT_ENCODING_L16_16 • 65 - PKT_ENCODING_ISAC • 69 - PKT_ENCODING_Opus
<p>Audio Encoding</p>	<p>G711 Audio Encoding (when Codec Type is PKT_ENCODING_G711 or PKT_ENCODING_G711_SILENCE_SUPPRESS):</p> <ul style="list-style-type: none"> • 0 - CKT_ENCODING_NULL • 1 - CKT_ENCODING_G711_ULAW • 2 - CKT_ENCODING_G711_ALAW <p>G722 Audio Encoding Types (when the Codec Type is G722):</p> <ul style="list-style-type: none"> • 0 - CPC_G722_CODING_RATE_48_KBPS • 1 - CPC_G722_CODING_RATE_56_KBPS • 2 - CPC_G722_CODING_RATE_64_KBPS <p>G723 Audio Encoding (when the Codec Type is PKT_ENCODING_G723 or PKT_ENCODING_G723A):</p> <ul style="list-style-type: none"> • 0 - G723_CODING_RATE_5P3_KBPS (5.3K bits per second) • 1 - G723_CODING_RATE_6P3_KBPS (6.3K bits per second) <p>G726 Audio Encoding (when the Codec Type is PKT_ENCODING_G726):</p> <ul style="list-style-type: none"> • 0 - G726_CODING_RATE_16KBPS • 1 - G726_CODING_RATE_24KBPS • 2 - G726_CODING_RATE_32KBPS • 3 - G726_CODING_RATE_48KBPS <p>ILBC Audio Encoding (when the Codec Type is PKT_ENCODING_ILBC and PKT_ENCODING_ILBCSS):</p> <ul style="list-style-type: none"> • 0 - ILBC_CODING_RATE_13P3_KBPS • 1 - ILBC_CODING_RATE_15P2_KBPS <p>T38 Audio Encoding (when the Codec Type is PKT_ENCODING_FAX_RELAY)</p> <ul style="list-style-type: none"> • 0 - T38_VERSION_0 • 3 - T38_VERSION_3 <p>NOTE (1): Audio Encoding Types are not applicable to Code Types NULL, G729A, and G729AB.</p> <p>NOTE (2): 32 kbps is the only rate available for G726 at R4.0.</p>

Ingress RTP Packetization Time

Decimal value indicating the duration of RTP packets in milliseconds, as recorded by the DSP in the resource chain on the ingress leg of the call. If no DSP resources are allocated on the ingress leg of the call, then this field is empty ("").

SBC Call ID

This field, assigned by the GSX/SBC, uniquely identifies a call within a single SBC and hence is equivalent to the SBC's internally assigned Global Call ID (GCID). This value is unique for this call within a SBC, but will vary from SBC to SBC. Use the Gateway-to-Gateway Handle to uniquely identify a call across multiple SBCs. (32-bit hexadecimal value, prefixed by "0x", such as 0x89ABCDEF.)

Terminated with Script Execution

This field (decimal, 0-1) identifies whether or not a script was executed before terminating the call. Possible values:

- 0 – the call was terminated without executing a script.
- 1 – the PSX returned a script executed by the GSX/SBC before terminating the call; the call was not routed.

Originator Echo Cancellation

This field (decimal, 0-1) identifies whether or not the GSX/SBC performed echo cancellation on the ingress leg of this call. Possible values:

- 0 – GSX/SBC did not perform echo cancellation on ingress leg of call.
- 1 – GSX/SBC performed echo cancellation on ingress leg of call.

This applies only to PSTN to IP and PSTN to PSTN calls. If the call is IP to PSTN, this field is empty ("").

Terminator Echo Cancellation

This field indicates if GSX/SBC performed echo cancellation on the egress leg of this call as follows:

- 0 – GSX/SBC did not perform echo cancellation on egress leg of call.
- 1 – GSX/SBC performed echo cancellation on egress leg of call.

This field applies only to IP to PSTN and PSTN to PSTN calls. If the call is PSTN to IP, this field is empty ("").

Charge Flag

The Charge Indicator values provisioned on the PSX. These values apply to the Ingress Trunk Group and are shown in the table below.

Table 10: Charge Flag Enumeration Values

Charge Flag	Value
NONE	0
NO CHARGE	1
CHARGE	2
SPARE	3
NO INDICATION	4

AMA Service Logic Identification

This field (AMAslpID) is used in an Advanced Intelligent Network (AIN) environment to record the identification of the service logic in the Service Control Point (SCP). (fixed 9-digit decimal number, with any leading zeroes present).

The table below describes the AMAslpID values. The PSX provides this data in Binary Coded Decimal (BCD) format, and the GSX/SBC software converts these strings to the fixed 9-character fields described below. If the BCD string contains more than 9 digits, the converted string is truncated. The terminating sign nibble in the BCD string (typically 0xC) is not present in the AMAslpID field.

If this data is unavailable, this field is empty ("").

See GR-1100-CORE, Section 2 for more detail about this native data.

Table 11: AMAslpID Values

Value	Description
000000000 - 899999999	Local Exchange Carrier (LEC)-assignable
900000000	Advanced Intelligent Network (AIN) default routing invoked
900000141	Toll-free service: Carrier Identification Code (CIC) not equal to 0110
900000142	Toll-free service: CIC equal to 0110
900000050	Switch generated AMAslpID: Default AIN Structure (220) with Resource Timing (Module 290)
900000866	Service Control Point (SCP) Default Service Logic value for Toll-Free
999999999	Unknown

AMA BAF Module

The Billing Automatic Message Accounting Format (BAF) module is used to record a variety of billing information. The first three characters represent the Module Code Identification that, in turn, specifies how to interpret the remaining characters. See the below table for these codes.

The remaining characters are defined in Section 1.4 "Data Fields" of the Telcordia Technologies Generic Requirements (GR-1100-CORE) Issue 4. Refer to that document for all definitions.

A string of 4-256 hexadecimal characters. If the BAF Module is unavailable, this field is empty ("").

The [BAF Module Names](#) table lists each valid BAF Module code and name as published in Telcordia Technologies Generic Requirements (GR-1100-CORE) Issue 4. The Telcordia document defines BAF Module names.

AMA Set Hex AB Indication

AMA Set Hex AB Indicator:

- "1" - AMA BAF Module contains a known or suspected error.
- "0" - AMA BAF Module contains no known errors.
- "" - (empty) AMA BAF Module is not present.

Service Feature ID

This field is a BAF parameter indicating a customer's originating or terminating line characteristics. This indication may be used by an accounting application to assess applicable tariffs to determine the price for services rendered.

This ID, if available, is provided by PSX/ERE as a fixed 3-digit decimal number. If no data is available, this field is left empty ("").

The GSX/SBC passes this data to the accounting record unchanged. The terminating sign nibble (typically hexadecimal C) is not propagated to the accounting record.

The [Service Feature IDs](#) table lists valid Service Feature IDs.

FE Parameter

An optional parameter in backwards call control messages (ACM, CPG, ANM, and Gateway-to-Gateway signaling).

If the egress GSX/SBC is the terminating switch, then the GSX/SBC generates this parameter. Otherwise, the downstream legacy switch generates this parameter, and then the GSX/SBC logs and forwards it to the accounting record.

If the FE Parameter is not present, this field is left empty ("").

The record is generated in one of two formats:

- Short Form—16 hexadecimal characters representing 8 bytes of binary data.
- Long Form—20 hexadecimal characters representing 10 bytes of binary data.

The Parameter Length field of the record designates whether the record is the Short Form or the Long Form.

The following tables depict each of these forms.

Table 12: Parameter Format (Short form)

Bits -->	8	7	6	5	4	3	2	1
Byte 1	Parameter Code (always 0xFE)							
Byte 2	Parameter Length (always 0x06)							
Byte 3	Completion Code				Answer Type			
Byte 4	Final Trunk Group ID (Least Significant Bits)							
Byte 5	Spare				Final Trunk Group ID (Most Significant Bits)			
Byte 6	Spare (always 0)		Final Switch ID					
Byte 7	Final Trunk Member (Least Significant Bits)							
Byte 8	Final Trunk Member (Most Significant Bits)							

Table 13: FE Parameter Format (Long Form)

Bits -->	8	7	6	5	4	3	2	1	
Byte 1	Parameter Code (always 0xFE)								
Byte 2	Parameter Length (always 0x08)								
Byte 3	Completion Code				Answer Type				
Byte 4	Final Trunk Group ID (Least Significant Bits)								
Byte 5	Spare				Final Trunk Group ID (Most Significant Bits)				
Byte 6	Spare (always 0)		Spare (always 0000000)						
Byte 7	Final Trunk Member (Least Significant Bits)								
Byte 8	Final Trunk Member (Most Significant Bits)								
Byte 9	Final Switch ID (Least Significant Bits)								
Byte 10	Spare (always 000000)					Final Switch ID (Most Significant Bits)			

The Answer Type and Completion Code (manner by which the call was terminated) are 4-bit values, depicted in the following table.

Table 14: Answer Type & Completion Code Values

Value	Answer Type	Completion Code
0000	Nil Value (Caller abandon during origination)	Normal Completed Call
0001	Software Answer, no voice detected	Treated Call
0010	Software Answer, voice detected	Abandoned Call
0011	Software Answer, audio ringback detected	Abnormal Call
0100	Hardware Answer	Signaling System Error
0101	Software Answer, silence detected	Forced Disconnect Invoked (brought down via manual intervention)
0110	Software Answer, persistent ringing	Offnet Route Advance Invoked
0111	Audio Tone Detector (ATD) hardware error or forced disconnect and continuous tone at remote switch	Test Call
1000	Software Answer, busy tone detected	Reserved
1001	Software Answer, reorder tone detected	TCAP SCP Response Time Out
1010	IMT software answer	Not Used
1011	IMT hardware answer	Not Used
1100	Early Billing Active with no Answer	Abnormal Release Call
1101	Early Billing Active with Answer	Completed Answer
1110	Not Used	Not Used
1111	Not Used	Class of Service Screening Failure

Example:

The FE Parameter record below:

"0xFE0812BC0A006745DF03"

...is generated by the following FE Parameter subfield values:

Format = Long Form

Completion Code = Treated Call (1)

Answer Type = Software Answer, voice detected (2)

Final Trunk Group ID = 0xABC

Final Switch ID = 0x3DF

Final Trunk Member = 0x4567

Satellite Indicator

Satellite Indicator (SAT):

- "1" - A satellite trunk was used.

- "0" - No satellite trunk was used, or a non-ISUP signaling variant such as ISDN or CAS was used.

This value is extracted from the Nature of Connection Indicator.

PSX Billing Information

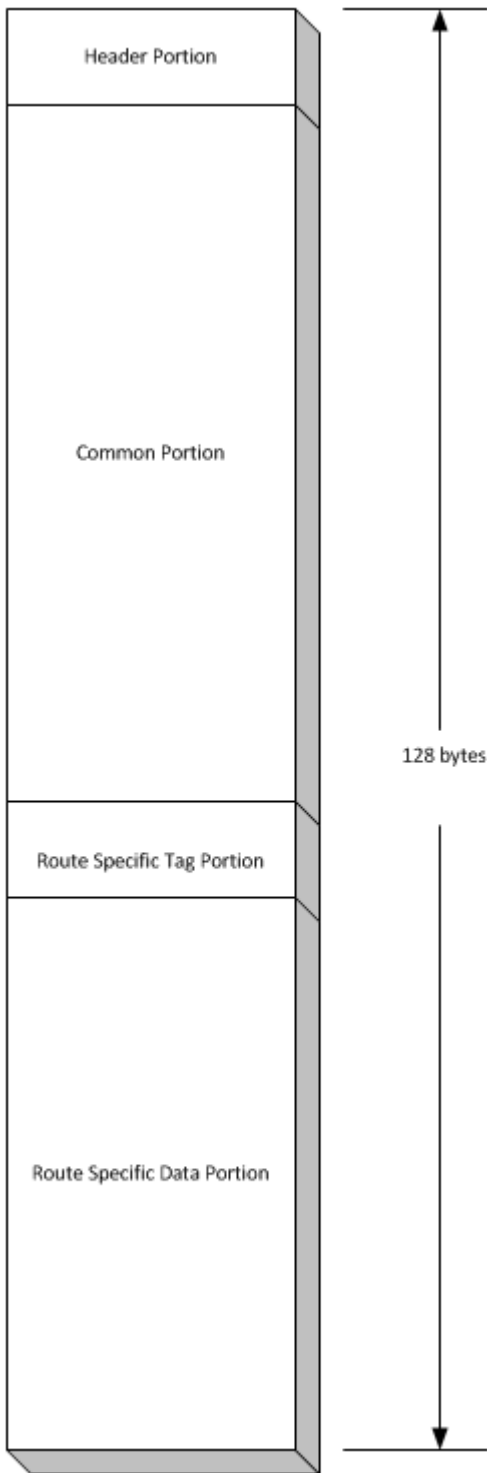
The following figure displays a high level view of the PSX Billing Information field within an accounting record. This field contains billing data generated by the PSX that is encoded in bytes represented as hexadecimal characters (00 to FF). This variable length field may contain up to 128 bytes of binary data (represented by 256 hexadecimal characters).

Every subfield in the PSX Billing Info field is provisioned on the PSX and placed into the SBC accounting record. Therefore, the results reflect particular PSX provisioning of the PSX Billing Info entity. Take this into consideration when viewing the example representations at the end of this section. Do not expect similar results in your records unless you provision each PSX Billing Info subfield in the same manner.

The PSX Billing Info field is divided into four portions:

- Header
- Common
- Route Specific Tag
- Route Specific Data

Figure 3: PSX Billing Info Field Diagram



Each portion is a series of one or more subfields.

The Billing File Info Header contains a unique 16 bit value.

The Common and Route Specific Tag portions are comprised of subfields that consist of a unique Tag, a Tag Data Length Indicator, and Data for that Tag (or value). In any of these subfields, the one byte Tag Data Length Indicator could be zero, resulting in a zero length value.

The Route Specific Data portion is comprised of subfields of Tag Data Length Indicator and Data for that Tag (or value), for each Tag, for each route. In this portion, the Tags themselves were defined in the Route Specific Tag portion and hence are not present in the subfields.

This subfield detail is depicted below:

Table 15: Billing File Header Portion

Byte 1	Byte 2
Billing Info Variant	

Table 16: Common Portion - Subfield 1

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Tag		Length	Tag Data		

Table 17: Common Portion - Subfield 2

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Tag		Length	Tag Data		

Table 18: Common Portion - Subfield n

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Tag		Length	Tag Data		

Table 19: Route Specific Tag Portion

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Tag		Length	Tag Data		

Figure 4: Route Specific Data Portion- Route1 Length1

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length 1	Data 1				

Table 20: Route Specific Data Portion - Route1 Length2

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length 2	Data 2				

Table 21: Route Specific Data Portion - Route1 Length1

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length n	Data n				

Table 22: Route Specific Data Portion - Route1 Length1

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length 1	Data 1				

Figure 5: Route Specific Data Portion - Route1 Length2

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length 2	Data 2				

Table 23: Route Specific Data Portion - Route1 Length n

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length n	Data n				

Table 24: Route Specific Data Portion - Route n Length1

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length 1	Data 1				

Table 25: Route Specific Data Portion - Route n Length 2

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length 2	Data 2				

Table 26: Route Specific Data Portion - Route n Length n

Byte 1	Byte 2	Byte 3	Byte 4	.....	Byte n
Length n	Data n				

Billing Info Variant

This field contains a two byte Billing Information Variant. This subfield is provisioned on the PSX. This field is always occupied by four hexadecimal characters representing two bytes of binary data. A user provisioned Billing Information Variant of 0000 is depicted below.

Table 27: Billing Info Variant

Billing Info Variant	
Byte 1	Byte 2
00	00

Tag, Length, and Tag Data

The [Billing information Variant Data](#) table lists the Tags, Tag Data lengths, and Tag Data descriptions that apply to the Billing Information Variants. In this table, the Max Length is the value provisioned in the PSX Billing Info entity. The Max Length value is always less than or equal to the Max Length Limit value, which is hard coded into the entity.

As mentioned previously, every Tag/Length/Value subfield and Route Specific Length/Value must be provisioned in the Billing Info entity on the PSX in order to be present in any accounting record. Furthermore, the Billing Info Profile ID that is provisioned on PSX must be associated with the (ingress) trunk group entity, also on the PSX. See the "PSX Policy Server Provisioning Guide" for these procedures.

When the length of the data that contains integer or hex digits is an odd number, the most significant byte will have a leading "0".

When the length of the data that contains BCD digits is an odd number, the most significant byte will have a leading "F".

The SCP may return certain values more than once. If this is the case, the corresponding subfield is populated in the PSX Billing Info field once per SCP reply. Data from each reply is appended to the end of Common Portion field, so the first occurrence of a subfield corresponds with the

first SCP reply, the next occurrence with the second reply, and so on. The following SCP subfields may be populated more than once in PSX Billing Info field:

- 0002 – SCP Pin Digits
- 0006 – SCP returned Supp Dig
- 0007 – SCP Call Info
- 0008 – SCP Bill

Example 1

The following PSX Billing Info field is defined in the following table.

00000005000001010603E903F60389000901F1000B03F978580004022345000A01F1000D03F97869000E0100000F010000100A4D696C696E6473204269000C03F60346001304F46089800FA0040FA10FA20100010F01000109010001090100010901000109

Table 28: PSX Billing Information Record Example 1

Tag	Length	Value	Description
HEADER PORTION			
0000			Variant
COMMON PORTION			
0005	00		Ingress Switch ID (no value provisioned)
0001	01	06	Carrier ID Origin (6=950 Access)
03E9	03	F60389	Called LRN (60389)
0009	01	F1	Calling Country Code (1)
000B	03	F97858	Calling LRN (97858)
0004	02	2345	Ingress TG Number (2345)
000A	01	F1	Called Country Code (1)
000D	03	F97869	Normalized Calling Number (97869)
000E	01	00	SCP Dip Indicator (0=No Dip)
000F	01	00	Ported M bit Indicator (0=No M bit set)
0010	0A	4D696C696E6473204269	Scratch Pad
000C	03	F60346	Normalized Called Number (60346)
0013	04	F4608980	The 7-digit Translated Number returned by the SCP (4608980)
ROUTE SPECIFIC TAG PORTION			
0FA0	04	0FA1 0FA2	Meta Tag (Eg Charge Ind, Eg TG Number)
ROUTE SPECIFIC DATA PORTION			
	01	00	Route 1 Egress Charge Indicator (0)
	01	0F	Route 1 Egress Trunk Group Number (15)
	01	00	Route 2 Egress Charge Indicator (0)
	01	09	Route 2 Egress Trunk Group Number (9)

	01	00	Route 3 Egress Charge Indicator (0)
	01	09	Route 3 Egress Trunk Group Number (9)
	01	00	Route 4 Egress Charge Indicator (0)
	01	09	Route 4 Egress Trunk Group Number (9)
	01	00	Route 5 Egress Charge Indicator (0)
	01	09	Route 5 Egress Trunk Group Number (9)

Example 2

The PSX Billing Information record below

000100010101000203F1234500030120000403022345000501990006029876000701000008045678EF9A03E905978555121200070122

Table 29: PSX Billing Information Record Example 2

Tag	Length	Value	Description
HEADER PORTION			
0001			Variant
COMMON PORTION			
0001	01	01	Carrier ID Origin (01)
0002	03	F12345	SCP PIN Digits (12345)
0003	01	20	SCP Treatment Index (20)
0004	03	022345	Ingress TG Number (22345)
0005	01	99	Ingress Switch ID (99)
0006	02	9876	SCP Returned Supplementary Digits (9876)
0007	01	00	SCP Call Information (First SCP Reply - 00)
0008	04	5678EF9A	SCP Billing Information (5678EF9A)
03E9	05	9785551212	Access LRN (9785551212)
0007	01	22	SCP Call Information (Second SCP Reply - 22)

Originating TDM Trunk Group Type

This field is supplied by the PSX, after customer specific provisioning. If this field is not provisioned on the PSX, it is left empty ("").

For more information on the TDM Trunk Group Type, refer to [TDM Trunk Group Type Enumeration Values](#).

Terminating TDM Trunk Group Type

This field is supplied by the PSX, after customer specific provisioning. If this field is not provisioned on the PSX, it is left empty ("").

For more information on the TDM Trunk Group Type, refer to [TDM Trunk Group Type Enumeration Values](#).

Ingress Trunk Member Number

Ingress Trunk Member Number. The ingress trunk member number that was provisioned on the GSX/ SBC circuit endpoint.

This field takes the decimal values 0-65534. If this field was not provisioned, or was subsequently UNSET for this circuit, it is left empty ("").

If the ingress trunk group is an IP trunk group, this value is always set to 1.

Egress Trunk Group ID

Egress Trunk Group ID. The egress trunk group ID on the egress GSX/SBC. The content of this field will differ from the corresponding field in the FE Parameter record whenever the final switch is not the same as the egress GSX/SBC.

This field is supplied by the PSX, taking the decimal values 0 - 4095. If this field is not provisioned on the PSX, it is left empty ("").

This field is supplied to the GSX/SBC by the PSX as a 13-character string terminated by a NULL character (""). Therefore, future PSX releases may supply Trunk Group IDs outside the above specified range.

Egress Switch ID

Egress Switch ID. The egress switch ID on the egress GSX/SBC. The content of this field will differ from the corresponding field in the FE Parameter record whenever the final switch is not the same as the egress GSX/SBC.

This field is supplied by the PSX, taking the decimal values 0 - 1023. If this field is not provisioned on the PSX, it is left empty ("").

This field is supplied to the GSX/SBC by the PSX as a 9-character string terminated by a NULL character (""). Therefore, future PSX releases may supply Trunk Group IDs outside the above specified range.

Ingress Local ATM Address

ATM address of the local physical port attached to the ATM network on the ingress leg of the call.

Because this field is not currently supported, it is always empty ("").

Ingress Remote ATM Address

ATM address of the remote physical port attached to the ATM network on the ingress leg of the call.

Because this field is not currently supported, it is always empty ("").

Egress Local ATM Address

ATM address of the local physical port attached to the ATM network on the egress leg of the call.

Because this field is not currently supported, it is always empty ("").

Egress Remote ATM Address

ATM address of the remote physical port attached to the ATM network on the egress leg of the call.

Because this field is not currently supported, it is always empty ("").

Policy Response Call Type

The PSX call type, based on the results of the digit analyses performed by the PSX, which is then used as part of the route selection process.

The call type enumeration permits 31 predefined (Sonus) values [0-30] and 31 user defined values [1001-1031] as shown in the following table.

Table 30: Policy Response Call Type Enumeration Values

Policy Response Call Type	Value
Unknown	0
No Digits	1
Lec Operator	2
Subscriber Operator	3
National Operator	4
Subscriber	5
National	6
Vertical Service Code	7
Emergency	8
Directory Assistance	9
Ein	10
Free	11
Premium	12
Ixc Operator	13
International	14
International Operator	15
Service Access Code	16
Carrier Code	17
Carrier Code 2	18
Private	19
Premium	20
Internet Offload Standard	21
Internet Offload Economy	22
Internet Offload Anonymous	23
IP VPN	24
Test	25
Internet Reception Service	26
Transit	27

Other Carrier Chosen	28
Reserved for Sonus	29-30
Reserved	31
Start	1000
Reserved for Users	1001-1031

Outgoing Route Identification

The outgoing trunk group number for calls that overflow from one gateway to another via a Singapore Inter-Gateway Circuit (IGC) trunk. The GSX/SBC extracts this decimal value (0-65536) from the optional "Outgoing Route Identification (ORI)" parameter in the ISUP Address Complete Message (ACM).

If GSX/SBC is not deployed in a Singapore network, the field is left empty ("").

Outgoing Message Identification

The type of route that was selected from a GSX/SBC deployed in a Singapore network. The GSX/SBC will extract this value from the optional "Outgoing Route Identification (ORI)" parameter in the ISUP Address Complete Message (ACM).

The following table lists these routes types.

Table 31: Outgoing Message Identification Enumeration Values

Outgoing Message ID	Value
National Route	0
Transit Route	1
Terminating Route	2
Spare	3

If the ORI is not present, the GSX/ SBC will generate and populate the Outgoing Message Identification according to the Network Indicator as follows:

- If the Network Indicator is set to "2" (National 1), then the Outgoing Message Identification is set to "0" (National Route).
- If the Network Indicator is set to "0" (International) and the GSX/SBC is a transit exchange, then the Outgoing Message Identification is set to "1" (Transit Route).
- If the Network Indicator is set to "0" (International) and the GSX/SBC is not a transit exchange, then the Outgoing Message Identification is set to "2" (Terminating Route).

If GSX/SBC is not deployed in a Singapore network, the field is left empty ("").

Incoming Route Identification

The incoming trunk group number on a GSX/SBC deployed in a Singapore network. The GSX/SBC will extract this value from the optional "Incoming Route Identification (IRI)" parameter in the ISUP Initial Address Message (IAM).

If the IRI is not present or if GSX/SBC is not deployed in a Singapore network, then this field contains the ingress trunk ID/Number that is configured on the PSX.

Calling Name

The calling party's name in text.

The ANSI SS7 specification defines this field as up to 15 characters of name information coded in IA5 format. The GSX/SBC passes this 15-character string to the PSX in Policy Request message. The PSX returns a Calling Name in the Policy Response that is either the same or a new Calling Name. New Calling Names provided by the PSX may be up to 24 characters. Hence the maximum length of this string is 26 characters (24-character string plus delimiting double quotes "").

The following transformations may be applied to this string:

- Non-printable IA5 characters (1..31 and 127) are displayed as white space (blanks).
- Commas are displayed as is (because the delimiters are the double quotes).
- Double quotes are displayed as single quotes.

Table 32: lists examples of these transformations

Calling Name in Policy Response	Calling Name in CDR
Doe, John<NULL>	,"Doe, John",
Jake "the snake"<NULL>	,"Jake 'the snake'",
Smith<CR>Mary<CR><NULL>	,"Smith Mary ",
<NULL>	,""

If the Calling Name is unknown, or not provided, then the field is left blank without displaying the double quotes as depicted in the last example above.

Calling Name Type

The Calling Name Type delivered in the PSX Policy Response.

Table 33: lists the Calling Name Types

Calling Name Type	Value
Invalid	0
Spare	1
Calling Name	2
Original Calling Name	3
Redirect Name	4
Connected Name	5

If Calling Name data is not available, this field is left empty ("").

Incoming Calling Party Numbering Plan

This field represents the Calling Party Numbering Plan received in the incoming setup message. For ISUP calls this value is extracted from the optional Calling Party Number parameter in the Initial Address Message (IAM). For SIP calls, this value is extracted from the FROM header.

The value logged to the CDR does not comply to the standard ISUP enumeration. This decimal value (range 0-15) must be interpreted according to the below table.

Table 34: Numbering Plan Enumerations

CPC/CDR Value (decimal)	ISUP Value (binary)	Numbering Plan
0	N/A	Indicates that this data is: <ul style="list-style-type: none"> • unavailable • unknown • an invalid numbering plan (the received ISUP value is greater than 7).
1	001	ISDN numbering plan (Rec. E.164, E.163)
2	011	Reserved ITU-TS Data Numbering Plan
3	100	Reserved ITU-TS Telex Numbering Plan
4	101	Private numbering plan
8	000	Unknown numbering plan
10	010	Spare 2
14	110	Spare 6
15	111	Spare 7

Outgoing Calling Party Numbering Plan

The GSX/SBC sends the "Incoming Calling Party Numbering Plan" to the PSX in the Policy Request message. As part of the routing process the PSX may manipulate the Calling Party Numbering Plan. This possibly modified value is then sent back to the GSX/SBC where it is used in outgoing signaling messages. This value is logged as the "Outgoing Calling Party Numbering Plan".

The value logged to the CDR does not comply to the standard ISUP enumeration. This decimal value (range 0-15) must be interpreted according to Table 43.



If the PSX does not manipulate this field, then the Incoming and Outgoing Calling Party Numbering Plans is the same.

Calling Party Business Group ID

START-91, STOP-110, ATTEMPT-101, INTERMEDIATE-91

This value represents the Business Group ID of the calling party. The GSX/SBC receives this value in the SIP INCOMING INVITE message.

This decimal value is in the range 0 to 4294967295. If this data is not present or unknown, then a one "1" (Public Business Group) is logged.

SIP is the only protocol which supports Business Group IDs. For all other protocols (ISUP, H323, etc.) this field is logged as "1".

Called Party Business Group ID

This value represents the Business Group ID of the called party. The GSX/SBC receives this value in the SIP INCOMING INVITE message. This value is then sent to the PSX in the Policy Request message. As part of the routing process the PSX may modify this value and return it in the Policy Response. The GSX/SBC logs the value supplied by the PSX, not the value received in the SIP INCOMING INVITE message.

This decimal value is in the range 0 to 4294967295. If this data is not present or unknown, then a one "1" (Public Business Group) is logged.

SIP is the only protocol which supports Business Group IDs. For all other protocols (ISUP, H323, etc.) this field is logged as "1".

Calling Party Public Presence Directory Number

The Calling Party Public Presence Directory Number (PPDN) is an optional SIP parameter which is propagated as the calling number when a call goes into the Public PSTN. If the SIP INCOMING INVITE message's Remote Party ID header contains id-context=ppdn, then the Remote Party ID is interpreted and logged as the Calling PPDN.

This string is up to 30 characters.

If the id-context is not PPDN or if the ingress protocol is not SIP, then this field is empty ("").

Elapsed Time from Receipt of Setup Message to Last Call Routing Attempt

Carriers bill each other based on Carrier Elapsed Time (as opposed to Customer Elapsed Time). Carrier Elapsed time is defined as the Carrier Connect Time to call disconnect time. Telcordia GR-508-CORE defines Carrier Connect Time as:

"The time when first wink is received from a carrier for Feature Group D (FGD) calls. For Feature Group B (FGB) calls, carrier connect time is the time when carrier off-hook is detected."

The closest the GSX/SBC can get to recording the actual carrier connect time is to capture when the IAM for the selected route was sent. The selected route is always the final route attempted. The GSX/SBC will capture and log the "Time Elapsed from Receipt of Setup Message to Last Call Routing Attempt".

This field contains that elapsed time in 10 millisecond ticks. If no routing attempts were made, then this field is left empty ("").

Billing Number NOA

The incoming ISUP IAM message may contain an optional "Charge Number" parameter. This parameter contains a nature of address (NOA) indicator for the charge number. The GSX/SBC logs this value. See [Incoming ISUP Charge Number NOA](#).

The GSX/SBC also sends this incoming value to the PSX in the Policy Request message. As part of the routing process the PSX may override this value with the Billing Number NOA provisioned for the ingress trunk group. The PSX returns this possibly modified NOA to the GSX/SBC in the Policy Response message. The GSX/SBC uses this returned value in outgoing signaling messages and logs it to this field, the "Billing Number NOA".

This field takes a decimal value in the range 1 to 255. If Billing Number NOA is unknown, then this field is left empty ("").

Incoming Calling Number NOA

START-96 STOP-115 ATTEMPT-107 INTERMEDIATE-98

The incoming ISUP IAM message may contain an optional "Calling Number" parameter. This parameter contains a nature of address (NOA) indicator for the calling number. The GSX/SBC logs this NOA in this field.



The outgoing calling number NOA is determined by the PSX and is logged in the "Calling Party Nature of Address" field. See [Calling Party Nature of Address](#).

This field takes a decimal value in the range 1 to 255. If an Incoming Calling Number NOA is not received, then this field is left empty ("").

Egress Trunk Member Number

The Trunk Member used by the egress trunk group for this call. This number uniquely identifies the channel used for this call. The Trunk Member object can be configured for ISDN, ISUP and CAS service groups.

This field takes a decimal value in the range 0 to 65535. If the Trunk Member for the ISDN, ISUP, or CAS egress trunk group is not configured,

then this field is left empty ("").

If the egress trunk group is an IP trunk group, this value is always set to "1".

Selected Route Type

This field identifies the destination gateway's type, such as GSX/SBC Gateway, SIP Proxy Server, ASX Gateway, etc. See the table for a the definition of each valid type. See "Route Selected" for additional destination gateway information that is logged.

This field takes a decimal value in the range 0-8. For terminating records, this field is left empty ("").

Table 35: Selected Route Types

CDR Value	Route Type
NULL	(Not Applicable - a terminating record)
0	CPC_ROUTE_TYPE_UNKNOWN
1	CPC_ROUTE_TYPE_GATEWAY
2	CPC_ROUTE_TYPE_GATEWAY_LOCAL
3	CPC_ROUTE_TYPE_SIPPROXY
4	CPC_ROUTE_TYPE_H323GATEKEEPER
5	CPC_ROUTE_TYPE_H323GATEWAY
6	CPC_ROUTE_TYPE_ASXGATEWAY
7	CPC_ROUTE_TYPE_SIPPROXY_LOCAL
8	CPC_ROUTE_TYPE_H323GATEWAY_LOCAL

Telcordia Long Duration Record Type

A decimal value indicating what type of Telcordia record is being represented:

Table 36: Telcordia Long Duration Record Type Field

CDR Value	Telcordia Record Type
0	Not a Telcordia Long Duration call or Telcordia Long Duration accounting is not enabled. This value can occur in both INTERMEDIATE and STOP records.
1	Telcordia Long Duration First record. This value means that the call met the Telcordia Long Duration requirements (call has been active for a time which is more than the configured threshold value at the time of daily Telcordia audit). This value only occurs in the first INTERMEDIATE record for a given call, never in the STOP record or in subsequent INTERMEDIATE records.
2	Telcordia Long Duration Continuation record. This value means that at least one Telcordia Long Duration INTERMEDIATE record is generated for this call prior to this record. This value can occur in both INTERMEDIATE and STOP records.

Time Elapsed from Previous Record

Specifies the elapsed time, in 10 millisecond ticks, from the previous record for this call to this record. The previous record is either a START record, or an INTERMEDIATE record. This record is either an INTERMEDIATE record or a STOP record.

If intermediate record mode is **interval**, this value is approximately 100 times the configured intermediate interval. The interval range of 5 seconds to 24 hours results in a field range of 500 - 8,640,000 milliseconds.

If intermediate record mode is **Telcordia**, the first Telcordia record range is from 8,640,000 milliseconds (24 hours) to 17,279,999 milliseconds (48 hours minus 10 milliseconds). The continuation Telcordia record range for STOP records is 0 milliseconds (call disconnected immediately following a long duration record generation) to 4,294,967,295 milliseconds. INTERMEDIATE Telcordia continuation records will always show 4,294,967,295 milliseconds in this field.

Cumulative Route Index

This decimal value reflects the overall route index used to route this call, counting all prior policy responses. This index can be combined with the Routing Label (see [Route Label](#)) to determine the chosen route.

A related field, "Route Index Used", is an index into the most recent policy response.

For example, assume the RL contains 28 routes, and the 25th route succeeds. The first policy response contains 10 routes, none of which succeed. The second policy response also contain 10 routes, again none succeed. The final policy response contains 8 routes, of which the 5th one succeeds. In this case "Route Index Used" is 5 and "Cumulative Route Index Used" is 25.

The range of this value is 1-65535. This field is empty ("") if no routes are chosen to route this call.

Call Disconnect Reason Transmitted to Ingress

This value represents the disconnect reason (or cause code) sent by the local GSX/ SBC to the ingress network (that is, toward the calling party). If the ingress network is another GSX/SBC, then this field will contain the disconnect reason sent by this local GSX/SBC to that remote GSX/SBC. This disconnect reason is not necessarily the same value the remote GSX/SBC sends to its ingress network. The transmitted reason is derived from the Release Message (REL) and not from other messages, such as ACM. If the release was initiated by the calling party, this field is empty ("").

If the actual disconnect reason (received from egress or internally generated) is not defined by the ingress signaling protocol, then the reason is mapped to a reason which is defined before being sent.

Call Disconnect Reason Transmitted to Egress

This value represents the disconnect reason (or cause code) sent by the local GSX/SBC to the egress network (i.e., toward the called party). If the egress network is another GSX/SBC, then this field contains the disconnect reason sent by this local GSX/SBC to the remote GSX/SBC. This disconnect reason is not necessarily the same value the remote GSX/SBC sends to its egress network. The transmitted reason is derived from the Release Message (REL) and not from other messages, such as ACM. If the release was initiated by the called party, then this field is empty ("").

If the actual disconnect reason (received from ingress or internally generated) is not defined by the egress signaling protocol, then the reason is mapped to a reason which is defined before being sent.

ISDN PRI Calling Party Subaddress

This string identifies the calling party subaddress associated with a call's origin. Although ISDN document Q.931E specifies that Calling Party Subaddress may contain up to 40 characters, this field is limited to 30 characters on GSX/SBC.

Outgoing Trunk Group Number in EXM

The Outgoing Trunk Group Number (OTGN) is an optional parameter in the Exit Message (EXM), and is a string of up to six digits. If an EXM is

received containing an OTGN, then this field is populated with that value. If an EXM is generated by the GSX/SBC, then the OTGN in the EXM is taken from the Service Group Profile and that value is also written to this field. Otherwise, this field is empty ("").

Ingress Local Gateway Signaling IP Address

For packet based ingress trunk groups, the IPv4 or IPv6 address used for ingress signaling on the local GSX/SBC. The IPv4 address is in dotted decimal format, for example 128.1.22.233 and IPv6 address in hexadecimal/colon format, for example fd00:21:445:128::7880. (the local GSX/SBC generates this accounting record; the device at the far end of the packet network is the remote address).

If the ingress trunk group is circuit based, this field is empty ("").

Ingress Remote Gateway Signaling IP Address

For packet based ingress trunk groups, the IPv4 or IPv6 address is used for ingress signaling on the far end of the packet network. The IPv4 address is in dotted decimal format, for example 128.1.22.233 and IPv6 address in hexadecimal/colon format, for example fd00:21:445:128::7880. (the local GSX/SBC generates this accounting record; the device at the far end of the packet network is the remote address.) The device at this address may be another GSX/SBC gateway, an H.323 device, or a SIP device.

If the ingress trunk group is circuit based, this field is empty ("").

Record Sequence Number

The sequence number of this record relative to other records in the file. Depending upon how the parameter is configured, this is either:

- a 16-bit sequence number from 0 to 65535 (5 characters maximum), or
- a 32-bit sequence number from 0 to 4294967295 (10 characters maximum).

This number starts at zero and increments by one each time a new record is written. The software maintains only one sequence regardless of the record type. When the sequence number reaches its maximum configured value, either 65535 or 4294967295, it wraps to zero and begins incrementing again (for example 65534, 65535, 0, 1, 2...). The incrementing continues through file roll-overs.

A sequence number of zero occurs only on a reboot (switchover), or a natural wraparound. (A natural wraparound sequence is 65534, 65535, 0, 1, 2 and so on.)

This field is intended to help reconcile billing records after events which may result in lost accounting records.

Transmission Medium Requirement (TMR)

This field is a fixed parameter in the ITU ISUP Initial Address Message (IAM).

For ISUP calls, this information is populated from the TMR parameter, if it is present. If the TMR parameter is absent, this information is populated from the USI parameter. The TMR parameter is mandatory in ITU and the USI parameter is mandatory in ANSI. Because the TMR parameter or the USI parameter is always present, this field is always populated.

For CAS ingress calls, this field is populated from the capabilities set in the circuit service profile as follows:

- If value = **circuitModeData**, then T1 channels are set to CPC_TG_TRANSFER_CAP_RESTRICTED. E1 channels are set to CPC_TG_TRANSFER_CAP_RESTRICTED if type is **restricted**, or to CPC_TG_TRANSFER_CAP_UNRESTRICTED if type is **unrestricted**.
- If value = **voiceOnly**, then T1 and E1 channels are set to CPC_TG_TRANSFER_CAP_SPEECH.
- If value = **voiceorCircuitModeData**, then T1 and E1 channels are set to CPC_TG_TRANSFER_CAP_3_1KHZ_AUDIO.

For incoming SIP calls, if the incoming INVITE has PSTN parameters, then the value of this field is taken from those PSTN headers. If an incoming SIP call is received without PSTN parameters, the default value **CPC_TG_TRANSFER_CAP_3_1KHZ_AUDIO** is placed into this field. For outgoing SIP calls, if **Include PSTN Parameters** is enabled in the PSX IP Signaling Profile, then these parameters are included in the SIP headers. Otherwise they are not included in outgoing INVITE.

The decimal value in range 0-255 must be interpreted according to the following table:

Table 37: Transmission Medium Requirement

TMR CDR Value (decimal)	ISUP Value (binary)	TMR Description
0	00000	CPC_TG_TRANSFER_CAP_SPEECH
8	00010	CPC_TG_TRANSFER_CAP_UNRESTRICTED
9	01001	CPC_TG_TRANSFER_CAP_RESTRICTED
16	10000	CPC_TG_TRANSFER_CAP_3_1KHZ_AUDIO
17	10001	CPC_TG_TRANSFER_CAP_UNRESTRICTED_WITH_TONES
18	11000	CPC_TG_TRANSFER_CAP_VIDEO
1-7 10-15 19-255		Spare

Information Transfer Rate (ITR)

For ISUP calls, the User Service Information (USI) parameter is mandatory for ANSI, and optional for ITU. The five least significant bits of the second octet in this parameter contain the Information Transfer Rate. If the USI is present, this field is populated according to the ISUP values in the table below. If the USI is absent, then this field is always populated with the value CPC_TG_TRANSFER_RATE_64KBITS.

For CAS ingress calls, this field is always CPC_TG_TRANSFER_RATE_64KBITS.

For SIP ingress calls, if the incoming INVITE has PSTN parameters, then the value of this field is taken from those PSTN headers. If an incoming SIP call is received without PSTN parameters, the default value CPC_TG_TRANSFER_RATE_64KBITS is placed into this field. For outgoing SIP calls, if [includePstnParameters](#) is enabled in the PSX IP Signaling Profile, then these parameters are included in the SIP headers. Otherwise they are not included in outgoing INVITE.

This decimal value in the range 0-31 must be interpreted according to the table below. Note that these values do not correspond to the ISUP Q.931 definitions.

Table 38: Information Transfer Rate

ITR CDR Value (decimal)	ISUP Value (binary)	ITR Description
0	00000	CPC_TG_TRANSFER_RATE_PACKET
8	10000	CPC_TG_TRANSFER_RATE_64KBITS
11*	10001	CPC_TG_TRANSFER_RATE_2x64KBITS
13*	10011	CPC_TG_TRANSFER_RATE_384KBITS
14*	10100	CPC_TG_TRANSFER_RATE_1472KBITS
15*	10101	CPC_TG_TRANSFER_RATE_1536KBITS
17*	10111	CPC_TG_TRANSFER_RATE_1920KBITS
18*	11000	CPC_TG_TRANSFER_RATE_MULTIRATE
1-7, 9, 10, 16, 19-31		Spare

- This value does not comply with Q.931

User Service Information (USI) User Information Layer 1

The User Service Information (USI) parameter is optional in the ISUP IAM. The five least significant bits of the third octet in this parameter contain the User Information Layer 1 (UIL1) Protocol. If the USI is not present in the IAM, or if the ingress service group is not ISUP, then this field is empty ("").

This decimal value (range 0-31) must be interpreted according to the below table.

Table 39: USI User Information Layer 1

USI-UIL1 CDR Value (decimal)	ISUP Value (binary)	USI-UIL1 Description
0	N/A	CPC_TG_UINFO_LAYER1_NO_INDICATION
1	00001	CPC_TG_UINFO_LAYER1_CCITT_STD_V110X30
2	00010	CPC_TG_UINFO_LAYER1_G711_uLAW_SPEECH
3	00011	CPC_TG_UINFO_LAYER1_G711_ALAW_SPEECH
4	00100	CPC_TG_UINFO_LAYER1_32KBIT_ADPCM
5	00101	CPC_TG_UINFO_LAYER1_G772_G725_7KHZ CPC_TG_UINFO_LAYER1_H221_H242
6	00110	CPC_TG_UINFO_LAYER1_H223_H245
7	00111	CPC_TG_UINFO_LAYER1_NON_CCITT_RA
8	01000	CPC_TG_UINFO_LAYER1_CCITT_STD_V120
9	01001	CPC_TG_UINFO_LAYER1_CCITT_STD_X31_HDLC
10-31		Spare

Unrecognized Raw ISUP Calling Party Category

This field contains the actual (raw) value of the calling party category if this value is not recognized by this GSX/ SBC, otherwise this field is empty ("").

If present, the decimal value of this field is in the range 0-255.

Egress RLT Feature Specific Data

The Egress Release Link Trunking (RLT) Feature Specific Data field is populated only when SS7 Release Link Trunking occurs on the egress leg of the call, otherwise this field is empty ("").

A Facility Request Message (FAR) is sent backward from the Redirecting Node to the call-originating node (Pivot Node) to request activation of an RLT service.

Any call that is bridged or redirected creates two accounting records: one for the initial call (AR) and one for the bridged or redirected call (BR). The table below presents the CDR logging scenarios for original, bridged, and redirected calls.

If more than one RLT (redirecting or bridging) occurs on the egress leg of the call, then only the data for the last RLT is present. When bridging occurs, the redirect Sub-Fields are empty (""). Similarly, when redirect occurs, the bridging Sub-Fields are empty (""). This field is a maximum of 598 characters, including all comma separators and the double quotation mark delimiters ("").

The [Release Link Trunking Sub-Fields](#) page provide additional explanation about certain Sub-Fields.

Example RLTs:

Redirecting:

"RLT,30,0:4000123456,0:3000123456,1:2000123456,0:1000123456,0:123456,1:0000123456,2:BADDC,3:ABCD0102,3330,0:8005551212,1:8005551212,2:0850552121,3:0850552121,7864351112,7865550017,2146809413,19,0,8637,0,,,,,,,,,"

Bridging:

"RLT,30,0:4000123456,0:3000123456,1:2000123456,0:1000123456,0:123456,1:0000123456,2:BADDC,3:ABCD0102,7491,,,,,,,,,2:48656C6C6F,0:2200123456,0:3300123456,0:4400123456,9785550000,9785551212,00070004:050505,0,15123,2033"

Two B-Channel Transfer Feature Specific Data

This field is populated only when a Two B-Channel Transfer occurs, otherwise this field is empty ("").

If one transfer occurs, then the first three Sub-Fields are populated. If a second transfer occurs, an additional Sub-Field is populated that indicates the time of that transfer. Unpopulated Sub-Fields are empty (""). This field is a maximum of 72 characters, including all comma separators and the double quotation mark delimiters (""). The following table describes the field format.

Table 40: Two B-Channel transfer Feature Specific Data

Sub-Field	Name	Max Length	Type	Description
1	Feature Identifier	4	Characters	Always "TBCT"
2	Number of Sub-Fields to Follow	1	Decimal	The number of transfers that have occurred. Must be 1-2.
3	Time Elapsed from Receipt of Setup Message to First Transfer Initiation	10	Digits	Time in 10 ms ticks
4	Time Elapsed from Receipt of Setup Message to Second Transfer Initiation (if this transfer occurred)	10	Digits	Time in 10 ms ticks

Example:

"TBCT,2,523,1179"

This string indicates two transfers occurring at 5.23 and 11.79 seconds after the call was established.

Calling Party Business Unit

This field contains the Business Unit ID (or Sub-Group ID) of the Calling Party. This data is supplied by the PSX in the Policy Response. If Business Unit data is not available for the call, this field is empty ("").

If present, the decimal value of this field is in the range 0-4294967295.

Called Party Business Unit

This field contains the Business Unit ID (or Sub-Group ID) of the Called Party. This data is supplied by the PSX in the Policy Response. If Business Unit data is not available for the call, this field is empty ("").

If present, the decimal value of this field is in the range 0-4294967295.

Redirection Feature Specific Data

This field captures the redirection information that happens to a call before it is processed by the GSX/SBC. This information is supplied by the originating network in the call setup message (the ISUP IAM message or the SIP INVITE message). This field does not refer to redirects performed internally by the GSX/SBC or PSX.

This field format is similar to the "Egress RLT Feature Specific Data" and the "Two B-Channel Transfer Feature Specific Data".

Field format is described in the below table.

Table 41: Redirection Feature Specific Data

Sub-Field	Name	Max Length	Type	Description
1	Feature Identifier	4	Characters	Always "REDI"
2	Number of Sub-Fields to Follow	2	Decimal	The number of redirect sub-fields. Eleven redirect subfields are logged if present. For example, as optional parameters supplied by the originating network in the call setup message, ISUP IAM, or SIP INVITE.
3	Redirecting Number	30	Digits	
4	Original Redirecting Called Number	30	Digits	
5	Redirect Reason	2	Digits	See Table 54 below for code definitions
6	Original Redirect Reason	2	Digits	See Table 54 below for code definitions
7	Redirect Counter	2	Digits	
8	Redirecting Number (Address Presentation Restriction)	1	Decimal	The reason why the address was restricted from presentation presented as an optional parameter in incoming signaling such as ISUP IAM or SIP INVITE. See Table A-55, "Redirecting Address Presentation Restriction Codes".
9	Redirecting Number (Numbering Plan)	2	Decimal	The numbering plan of the parameter presented as an optional parameter in incoming signaling such as ISUP IAM or SIP INVITE. See Table 56, "Redirecting Numbering Plan Codes".
10	Redirecting Number (Nature of Address)	2	Decimal	The nature of address of the parameter presented as an optional parameter in incoming signaling such as ISUP IAM or SIP INVITE. See Table 57, "Redirecting Nature of Address Codes".
11	Redirect Number (Number)	30	Digits	The Redirect Number, presented as an optional parameter in incoming signaling such as ISUP REL. For example, "01793601618".
12	Redirect Number (Numbering Plan)	2	Decimal	The numbering plan of the Redirect Number parameter presented as an optional parameter in incoming signaling such as ISUP REL. See Table 56, "Redirecting Numbering Plan Codes".
13	Redirect Number (Nature of Address)	2	Decimal	The nature of address of the Redirect Number parameter presented as an optional parameter in incoming signaling such as ISUP REL. See Table 57, "Redirecting Nature of Address Codes".

14	Redirect Capability	1	Decimal	<p>The ability of the preceding office to redirect the call. Valid values:</p> <ul style="list-style-type: none"> • empty - Information Not Available • 0 - CPC_RED_CAP_NOT_USED (capability not used) • 1 - CPC_RED_CAP_BEFORE_ACM (redirect capability only before ACM is received) • 2 - CPC_RED_CAP_BEFORE_ANM (redirect capability only before ANM is received) • 3 - CPC_RED_CAP_ALWAYS (redirect capability for the life-time of the call)|
15	Redirect Forward Information Type Flag	1	Decimal	<p>The type of Redirect Forward information included. Valid values:</p> <ul style="list-style-type: none"> • empty - Information Not Available • 0 - CPC_FORWARD_INFO_TYPE_ID_NOT_USED (redirect not used) • 1 - CPC_FORWARD_INFO_TYPE_ID_REDIRECTION_IND (performing redirect indicator)|
16	Redirect Forward Information Possible	1	Decimal	<p>The type of redirect supported. Valid values:</p> <ul style="list-style-type: none"> • empty - Information Not Available • 0 - CPC_REASON_OF_RED_NOT_USED (redirect not used) • 1 - CPC_REASON_OF_RED_LNP_MNP (redirect due to LNP or MNP)|
17	Redirect Forward Information Possible	1	Decimal	<p>The ability of the preceding office to redirect the call. Valid values:</p> <ul style="list-style-type: none"> • empty - Information Not Available • 0 - CPC_RED_POSSIBLE_NOT_USED (redirect not used) • 1 - CPC_RED_POSSIBLE_BEFORE_ACM (redirect possible before ACM is received) • 2 - CPC_RED_POSSIBLE_BEFORE_ANM (redirect possible before ANM is received) • 3 - CPC_RED_POSSIBLE_ANYTIME (redirect always possible)
18	Redirect Backward Information Type Flag	1	Decimal	<p>The type of Redirect Backward information included. Valid values:</p> <ul style="list-style-type: none"> • empty - Information Not Available • 0 - CPC_BACKWARD_INFO_TYPE_ID_NOT_USED (redirect not used) • 1 - CPC_BACKWARD_INFO_TYPE_IDREASON_OF_REDIRECTION (performing redirect indicator)|
19	Redirect Backward Information Reason	1	Decimal	<p>The reason for redirect by the preceding exchange. Valid values:</p>
20	Number of Redirects	2	Decimal	<p>The number of redirects for an LNP/MNP call. The range of valid values for this field is 0-31 or empty (Information Not Available).</p>
21	Redirect Executed	1	Decimal	<p>Indicates whether a redirect was executed by the GSX/SBC. Valid values for this field are:</p> <ul style="list-style-type: none"> • 0 - Redirect not executed • 1 - Redirect executed|

22	Redirecting Original Called Number (Nature of Address)	2	Decimal	The nature of address of the Redirect Number parameter presented as an optional parameter in incoming signaling such as ISUP IAM or SIP INVITE. See Table 57, "Redirecting Nature of Address Codes". Initially in this release, this subfield is always empty.
----	--	---	---------	---

Redirect Reason Codes

Table 42: Redirect Reason Codes

ID	Definition
0	CPC_OP_RDN_REASON_UNKNOWN
1	CPC_OP_RDN_REASON_USER_BUSY
2	CPC_OP_RDN_REASON_NO_REPLY
3	CPC_OP_RDN_REASON_UNCONDITIONAL
4	CPC_OP_RDN_REASON_DEFLECTION
5	CPC_OP_RDN_REASON_OUT_OF_ORDER
6	CPC_OP_RDN_REASON_SING_CHANGED_NUM_INTERCEPT
7	CPC_OP_RDN_REASON_DEFLECTION_IMMEDIATE_RESP
8	CPC_OP_RDN_REASON_MOB_SUBSC_NOT_REACHABLE
9	CPC_OP_RDN_REASON_SPARE_04
10	CPC_OP_RDN_REASON_SPARE_05
11	CPC_OP_RDN_REASON_SPARE_06
12	CPC_OP_RDN_REASON_SPARE_07
13	CPC_OP_RDN_REASON_SPARE_08
14	CPC_OP_RDN_REASON_SPARE_09
15	CPC_OP_RDN_REASON_SPARE_0A
16	CPC_OP_RDN_REASON_SPARE_0B
17	CPC_OP_RDN_REASON_SPARE_0C
18	CPC_OP_RDN_REASON_SPARE_0D
19	CPC_OP_RDN_REASON_SPARE_0E
20	CPC_OP_RDN_REASON_SPARE_0F
21	CPC_OP_RDN_REASON_NETWORK_CONGESTION_VMS

Redirecting Address Presentation Restriction Codes

Table 43: Redirecting Address Presentation Restriction Codes

CDR Value	Definition
empty	not present
0	CPC_ADDR_PRESENTATION_INVALID
1	CPC_ADDR_PRESENTATION_ALLOWED
2	CPC_ADDR_PRESENTATION_RESTRICTED
3	CPC_ADDR_PRESENTATION_NUMBER_UNAVAILABLE
4	CPC_ADDR_PRESENTATION_SPARE

Redirecting Numbering Plan Codes

Table 44: Redirecting Numbering Plan Codes

CDR Value	Definition
empty	not present
0	CPC_ADDR_NUMBERING_PLAN_INVALID
1	CPC_ADDR_NUMBERING_PLAN_ISDN
2	CPC_ADDR_NUMBERING_PLAN_DATA
3	CPC_ADDR_NUMBERING_PLAN_TELEX
4	CPC_ADDR_NUMBERING_PLAN_PRIVATE
8	CPC_ADDR_NUMBERING_PLAN_SPARE0(a.k.a. ISUP Unknown Numbering Plan)
10	CPC_ADDR_NUMBERING_PLAN_SPARE2(a.k.a. ISUP Spare 2)
14	CPC_ADDR_NUMBERING_PLAN_SPARE6(a.k.a. ISUP Spare 6)
15	CPC_ADDR_NUMBERING_PLAN_SPARE7(a.k.a. ISUP Spare 7)

Redirecting NoA Codes

Table 45: Redirecting Nature of Address Codes

CDR Value	Definition
empty	not present
0	CPC_ADDR_NATURE_INVALID
1	CPC_ADDR_NATURE_UNIQUE_SUBSCRIBER_NUMBER
2	CPC_ADDR_NATURE_UNIQUE_NATIONAL_NUMBER

3	CPC_ADDR_NATURE_UNIQUE_INTERNATIONAL_NUMBER
4	CPC_ADDR_NATURE_NON_UNIQUE_SUBSCRIBER_NUMBER
5	CPC_ADDR_NATURE_NON_UNIQUE_NATIONAL_NUMBER
6	CPC_ADDR_NATURE_NON_UNIQUE_INTERNATIONAL_NUMBER
7	CPC_ADDR_NATURE_TEST_LINE_CODE
8	CPC_ADDR_NATURE_NO_NUMBER_PRESENT_OPERATOR_REQUESTED
9	CPC_ADDR_NATURE_NO_NUMBER_PRESENT_CUTTHROUGH_CALL_TO_CARRIER
10	CPC_ADDR_NATURE_950
11	CPC_ADDR_NATURE_ANI_OF_CALLING_PARTY_SUBSCRIBER_NUMBER
12	CPC_ADDR_NATURE_ANI_NOT_AVAILABLE_OR_NOT_PROVIDED
13	CPC_ADDR_NATURE_ANI_OF_CALLING_PARTY_NATIONAL_NUMBER
14	CPC_ADDR_NATURE_ANI_OF_CALLED_PARTY_SUBSCRIBER_NUMBER
15	CPC_ADDR_NATURE_ANI_OF_CALLED_PARTY_NO_NUMBER_PRESENT
16	CPC_ADDR_NATURE_ANI_OF_CALLED_PARTY_NATIONAL_NUMBER
17	CPC_ADDR_NATURE_UNKNOWN
18	CPC_ADDR_NATURE_NO_CHANGE
19	CPC_ADDR_NATURE_NETWORK_SPECIFIC
20	CPC_ADDR_NATURE_SS7_RESERVED
21	CPC_ADDR_NATURE_HK_NATL_UNKNOWN
22	CPC_ADDR_NATURE_NETWORK_NUMBER

When the ingress protocol is SIP, all diversion headers present in the incoming SIP INVITE message are used to populate Redirection Feature Specific Data. The GSX/SBC maps the SIP diversion headers into ISUP parameters. The name-addr of the top-most Diversion header is used to set the ISUP Redirecting Number. The diversion-reason of the top-most Diversion header is used to set the ISUP Redirecting Reason.

When multiple Diversion headers are present, the name-addr of the bottom-most Diversion header is used to set the ISUP Original Redirecting Number, and the diversion-reason of the bottom-most Diversion header is used to set the ISUP Original Redirecting Reason. The ISUP Redirect counter is set equal to the sum of the counters of all Diversion headers in the SIP message.

A diversion header that does not explicitly specify a diversion-counter tag counts as "1". If no redirect occurs, then the entire "Redirection Feature Specific Data" field is empty ("").

Example Redirection Feature Specific Data Field:

"REDI,11,3971912318,3971912315,1,2,10,0,10,6,01793601618,2,19"

Ingress RLT Feature Specific Data

The Ingress RLT (Release Link Trunking) Feature Specific Data field is populated only when SS7 Release Link Trunking occurs on the ingress leg of the call, otherwise this field is empty ("").

A Facility Request Message (FAR) is sent backward from the Redirecting Node to the call-originating node (Pivot Node) to request activation of an RLT service.

Any call bridged or redirected creates two accounting records: one for initial call (AR) and one for bridged or redirected call (BR). Table Encoding Data Detail presents the CDR logging scenarios for original, bridged, and redirected calls.

If more than one RLT (redirecting or bridging) occurs on ingress leg of the call, only the data for the last RLT is present. When bridging occurs, the redirect Sub-Fields are empty (""). Similarly, when redirect occurs, bridging Sub-Fields are empty ("").

This field is a maximum of 598 characters, including all comma separators and the double quotation mark delimiters (""). Table USI User Information Layer 1 describes the field format. Table Release Link Trunking Failure provides additional explanation about certain SubFields.

PSX Index

This field, which is configured on the GSX/SBC, contains the index of the PSX that routed the call. The decimal value of this field is 0-10, as shown below:

Table 46: PSX Index Field

CDR Value	PSX Routing Provider
0	GSX/SBC Internal Routing
1	Routing Provided by PSX 1
2	Routing Provided by PSX 2
.	.
.	.
10	Routing Provided by PSX 10

Use the [ADMIN](#) command to see the names of PSX 1 (left column) and PSX 2 (right column).

The names and indexes of the configured PSXs are recorded in the system event log at PSX creation time. An example of such an entry is:

```
119 06112004 194858.00001:1.01.MAJOR .DS : PSX created, name: boston, index: 2
```

PSX Congestion Level

This field contains the enumerated congestion level value sent to the GSX/SBC by the PSX in the Policy Response. These enumeration are listed below. If no PSX was involved in routing the call or if congestion control was disabled, then this field is empty ("").

Table 47: PSX Congestion Level Field

CDR Value	Congestion Level
0	Clear
1	Low
2	Medium
3	High

PSX Processing Time

This field contains the time in milliseconds that used by PSX to process a Policy Request. This value contributes to the policy response time. If no PSX is involved in routing the call or if no PSX transaction took place, then this field is empty ("").

If present, the decimal value of this field is in the range 0-65535.

Script Name

This field contains the file name (string of up to 23 characters) of a script executed on behalf of a call. If more than one script is executed, this field contains the name of the last script that executed.

If no script was executed on behalf of this call, this field is empty ("").

Ingress External Accounting Data

This field, consisting of an ASCII string with the delimiters "", contains external accounting data from the ingress leg of the call, similar to the "Ingress Protocol Variant Specific Data". This string takes the form:

```
"<protocol identifier>,<external accounting data>"
```

The maximum length of the field, including the delimiters, is 128.

Because accounting strings from external entities can contain characters to corrupt a CDR record, the GSX/SBC software performs the following character substitutions:

- all control characters, such as <CR>, , <ESC>, and so on, are converted to space (" ")
- double quote (") is converted to single quote (')



Currently, SIP is the only protocol that logs external accounting data with the string generated when a SIP external signaling peer supplies <external accounting data>:

```
"SIP-PCDR,<external accounting data>"
```

Egress External Accounting Data

This field, consisting of an ASCII string with the delimiters "", contains external accounting data from the egress leg of the call, similar to the "Egress Protocol Variant Specific Data". This string takes the form:

```
"<protocol identifier>,<external accounting data>"
```

The maximum length of the field, including the delimiters, is 128.

See "Ingress External Accounting Data" for explanation field.



Currently, SIP is the only protocol that logs external accounting data with the string generated when a SIP external signaling peer supplies <external accounting data>:

```
"SIP-PCDR,<external accounting data>"
```

Egress RTP Packetization Time

Egress Number of Audio Bytes Sent

Number of Audio Bytes Sent as recorded by the egress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Egress Number of Audio Packets Sent

Number of Audio Packets Sent as recorded by the egress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Egress Number of Audio Bytes Received

Number of Audio Bytes Received as recorded by the egress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Egress Number of Audio Packets Received

Number of Audio Packets Received as recorded by the egress DSP/NP (decimal representation of a 64 bit number: 1 - 1.844674407*10¹⁹).

Egress Interarrival Packet Jitter

The maximum interarrival packet jitter time (in millisecond) recorded by the egress DSP/NP. This field is a decimal representation of a 16-bit number, hence must be in the range 0-65535 (This is applicable to RTCP statistics for VoIP calls only).

Egress Last Measurement for Latency

The last measurement for latency (in milliseconds) as recorded by the egress DSP. This field is a decimal representation of a 16-bit number, hence must be in the range 0-65535 (applicable to RTCP statistics for VoIP calls only).

Ingress Maximum Packet Outage

This field contains a decimal value up to 10 digits, and logs the maximum duration between received packets, in milliseconds, on ingress side of the call.

Egress Maximum Packet Outage

This field contains a decimal value up to 10 digits, and logs the maximum duration between received packets, in milliseconds, on egress side of the call.

Ingress Packet Playout Buffer Quality

This field summarizes the DSP media quality for the most recent 31 time intervals of the ingress leg of the call. The default time interval is 20,000 milliseconds or 20 seconds. Customize this time interval via the CLI:

The playout buffer quality is averaged over this interval and then quantized into one of four discrete levels characterized by the bit patterns:

- 00 = GOOD
- 01 = ACCEPTABLE
- 10 = POOR
- 11 = UNACCEPTABLE

Data for the most recent 31 time intervals is recorded. These 62 bits of data (31 intervals x 2 bits/interval) are represented in CDR as a 16-character hexadecimal value. An end of data token (bit pattern 11) is used to indicate start of valid data. All data to the left of the token is invalid, while all data to the right is valid.


This field contains 16 hexadecimal characters without the "0x" prefix. Hex characters "A" through "F" are capitalized. If a DSP resource was not used for the ingress leg of the call, this field is empty ("").

The table below presents several example field values and the explanation of each.

Table 48: Ingress Packet Playout Buffer Quality Field

CDR Value	Interpretation
-----------	----------------

00000300000B0010	Binary: 0000 0000 0000 0000 0000 0011 0000 0000 0000 0000 0000 1011 0000 0000 0001 0000. The end of data bit pattern occurs in the 21st most recent position. This means the 20 intervals to the right are valid and the 11 intervals to the left are invalid. Of the valid intervals, all were bit pattern 00 (GOOD), except for the 3rd most recent bit pattern 01 (ACCEPTABLE), the 9th most recent bit pattern 11 (UNACCEPTABLE), and the 10th most recent bit pattern 10 (POOR)
C000000000000000	Binary: 1100 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000. The end of data bit pattern in left most position means the call duration was at least 31 intervals and the most recent 31 intervals were bit pattern 00 (GOOD).

 The length of the first measurement interval can range between 0 milliseconds and the configured interval length.

Egress Packet Playout Buffer Quality


This field summarizes the DSP media quality for the most recent 31 time intervals of the egress leg of the call.

This field contains 16 hexadecimal characters without the "0x" prefix. Hex characters "A" through "F" are capitalized. If a DSP resource was not used for the egress leg of the call, this field is empty ("").

See [Ingress Packet Playout Buffer Quality](#) for a full explanation of this field.

Answer Supervision Type

This field indicates the type of answer that was detected when ANSWER SUPERVISION was in effect for the call.

 Answer Supervision mechanism ensures calls are correctly cut through and accounted for when answer signaling is absent from the call flow. When enabled, a timer starts when the egress call setup occurs, and then clears when the call is answered. If the timer expires an action is initiated to either clear the call or declare the call answered and cut through the forward voice path.

ANSWER SUPERVISION may be configured for all signaling prototypes except GSX/SBC Gateway to Gateway signaling. When ANSWER SUPERVISION is enabled, one of the four scenarios below establishes the answer type:

- Called party answers the call (causing a return of the ANM message), before the answer supervision timer expires. An answer type of **HARDWARE** is presented in the START, INTERMEDIATE, and STOP records.
- Calling or called party disconnects the call (causing a return of the REL message), before the answer supervision timer expires. An answer type of **HARDWARE** is presented in the ATTEMPT record.
- The answer supervision timer expires and the call is disconnected before the called party answers the call (causing a return of the REL message). An answer type of **SOFTWARE** is presented in the ATTEMPT record.
- The answer supervision timer expires, after which the call is answered (causing a return of the ANM message). An answer type of **SOFTWARE** is presented in the START, INTERMEDIATE, and STOP records.

If ANSWER SUPERVISION is disabled, an answer type of empty (""), is presented in all records.

This field takes a decimal value in the range 1-2, or remains empty (""), as summarized in the following table:

Table 49: Answer Supervision Type Field

CDR Value	Answer Type and Condition
empty ("")	ANSWER SUPERVISION disabled
1	HARDWARE answer
2	SOFTWARE answer

Ingress SIP REFER-Replaces Feature Specific Data

This field contains Feature Specific Data for a SIP REFER (Blind Transfer) or SIP Replaces (Attended Transfer) operation is performed on the ingress leg of a SIP to SIP call.

SIP REFER data is populated if a 'SIP REFER' request is received. SIP REPLACES data is populated if a 'SIP INVITE with Replaces' or 'SIP REFER with Replaces' header message is received. If the SIP REFER or SIP REPLACES operation is absent on this leg of the call, this field is empty ("").

The maximum length of this field is 81 characters, including all commas and double quotes ("").

The format of the SIP REFER Feature Specific Data field is:

```
"SREF,<number of subfields>,<TimeFromInviteToRefer>,<transferor's number>,<new transfer target number>"
```

Inspect the CDR of the B>C call to determine whether the SIP REFER is successful:

- if successful, this field is present in a START/STOP record
- if not successful, this field is present in an ATTEMPT record

SIP REFER

The format of the SIP REFER Feature Specific Data field is:

```
"SREF,<number of subfields>,<TimeFromInviteToRefer>,<transferer's number>,<new transfer target number>"
```

The following table details each of these subfields.

Table 50: SIP REFER Feature Specific Data Subfields

Sub Field	Name	Max Length	Type	Description
1	Feature Identifier	4	Characters	Always "SREF"
2	Number of Sub-Fields to Follow	1	Decimal	Always "3"
3	Transferer's Number	30	Characters	Number of the party that initiated the SIP transfer. String of digits 0-9, up to 30 characters.
4	New Transfer Target Number	30	Characters	String of digits 0-9, up to 30 characters. Number of the party that received the SIP transfer.

Inspect the CDR of the B>C call to determine whether the SIP Refer is successful:

- if successful, this field is present in a START/STOP record
- if not successful, this field is present in an ATTEMPT record

The example string:

```
"SREF,3,523,7817771111,9787771111"
```

indicates that a SIP Refer by party B (7817771111) to party C (9787771111) is received 5.23 seconds after receiving the setup message (INVITE).

SIP INVITE with Replaces

The format of the SIP Replaces Feature Specific Data field is:

```
"SREPL,<number of subfields>,<Time>,<opLeg>,<legId>,<peerCallGcid>,<peerCallLegId>"
```

The following table details each of these subfields.

Table 51: SIP INVITE with Replaces Feature Specific Data Subfields

Sub Field	Name	Max Length	Type	Description
1	Feature Identifier	3	Characters	Always "SREPL"
2	Number of Sub-Fields to Follow	1	Decimal	Always "5"
3	Time Elapsed from receipt of first INVITE message to receipt of subsequent INVITE w/ REPLACES	10	Decimal	Decimal time in 10 millisecond ticks
4	Operation performed on this call's leg	1	Decimal	Operation: <ul style="list-style-type: none"> • 0= This leg was replaced • 1= This leg replaces
5	This call's leg ID	1	Decimal	Current Call Leg: <ul style="list-style-type: none"> • 0= Ingress leg • 1= Egress leg
6	Peer call's GCID	10	Characters	32 bits in Hex format, SBC's internally assigned Global Call ID (GCID) for peer call
7	Peer call's leg ID	1	Decimal	Peer Call Leg <ul style="list-style-type: none"> • 0= Ingress leg • 1= Egress leg

The example string:

"SREPL,5,625,1,0,0x00060001,0"

indicates INVITE with REPLACES was received 6.25 seconds after the initial setup (INVITE) message. This call's ingress leg Replaces the peer (GCID x00060001) call's ingress leg.

SIP REFER with Replaces

The format of the SIP REFER with Replaces Feature Specific Data field is:

"SREFREPL,<number of subfields>,<Time>,<opLeg>,<legId>,<peerCallGcid>,<peerCallLegId>"

The following table details each of these subfields.

Table 52: SIP REFER with Replaces Feature Specific Data Subfields

Sub Field	Name	Max Length	Type	Description
1	Feature Identifier	3	Characters	Always "SREFREPL"
2	Number of Sub-Fields to Follow	1	Decimal	Always "5"
3	Time Elapsed from receipt of first INVITE message to receipt of subsequent INVITE w/ REPLACES	10	Decimal	Decimal time in 10 millisecond ticks
4	Operation performed on this call's leg	1	Decimal	Operation: <ul style="list-style-type: none"> • 0= This leg was replaced • 1= This leg replaces
5	This call's leg ID	1	Decimal	Current Call Leg: <ul style="list-style-type: none"> • 0= Ingress leg • 1= Egress leg
6	Peer call's GCID	10	Characters	32 bits in Hex format, SBC's internally assigned Global Call ID (GCID) for peer call

7	Peer call's leg ID	1	Decimal	Peer Call Leg <ul style="list-style-type: none"> • 0= Ingress leg • 1= Egress leg
---	--------------------	---	---------	---

The example string:

"SREFREPL,5,750,1,0,0x00080002,0"

indicates REFER with REPLACES was received 7.50 seconds after the initial setup (INVITE) message. This call's ingress leg Replaces the peer (GCID x00080002) call's ingress leg.

Egress SIP REFER-Replaces Feature Specific Data

This field contains Feature Specific Data for a SIP REFER (Blind Transfer) or SIP Replaces (Attended Transfer) operation is performed on the egress leg of a SIP to SIP call.

SIP REFER data is populated if a 'SIP REFER' request is received. SIP REPLACES data is populated if a 'SIP INVITE with Replaces' or 'SIP REFER with Replaces' header message is received. If the SIP REFER or SIP REPLACES operation is absent on this leg of the call, this field is empty ("").

The maximum length of this field is 81 characters, including all commas and double quotes ("").

See "Ingress SIP REFER-Replaces Feature Specific Data" above for details about each of subfield of SIP REFER, SIP INVITE with Replaces, and SIP REFER with Replaces feature-specific data fields.

Network Transfer Feature Specific Data

This field is populated when a Network Transfer occurs.

The format of the field is:

"NWXF,<number of subfields>,<Speed Dial Digits>,<RefTod>,<NTCallType>"

The following table details each of these subfields.

Table 53: Network Transfer Feature Specific Data Subfields

Sub Field	Name	Max Len	Type	Description
1	Feature Identifier	4	Characters	Always "NWXF"
2	Number of Sub-Fields to Follow	1	Decimal	Always "3"
3	Speed Dial Digits	10	Characters	Speed Dial Digits identifying the new called party entered by Transferrer.
4	RefTod	30	Characters	Referring Toll Free Number
5	NTCallType	2	Digits	Specifies Network Transfer Types <ul style="list-style-type: none"> • 24 - Network Transfer • 25 - Network Transfer Courtesy • 26 - Network Transfer Consult • 27 - Network Transfer Conference • 28 - Non-subscribed Network Transfer

The maximum length of this field is 54 characters, including all commas and double quotes ("").

The example string:

"NWXF,3,100,18007817788,25" indicates that Network Transfer of type "Network Transfer Courtesy" is initiated by "18007817788" by dialing speed dial digits "100".

Call Condition

This field provides the criteria for determining the AMA call type value for billing records. This value is generated by the PSX and based on the type of call along with other network information such as terminating call, inter-network call, intra-network call, etc. This two-digit decimal field takes a value from 0-39, that maps to the call conditions described in the [Call Condition Criteria](#) table.

Toll Indicator

This field provides the toll indication for the call. This value is generated by the PSX. This two-digit decimal field takes a value from 0-64, that maps to the toll indicators described in the table.

Table 54: Toll Indicator Field

CDR Value	Toll Indicator
empty	Policy Response not Received
1	Inter-Lata Toll
2	Inter-Lata Local
4	Intra-Lata Local
8	Intra-Lata Toll
16	International
32	Private
64	Unknown

Generic Number (Number)

This field contains the digits from the Generic Number "number" subfield, and is located in ISUP signaling messages received at the gateway, such as IAM, SGM, etc. This string is up to 30 characters. If no "number" was included in ISUP messages associated with this call, then this field is empty ("").

An example of this field is:

"01793601014"

Generic Number (Presentation Restriction Indicator)

This one-decimal digit field provides the Presentation Restriction Indication for the Generic Number "number" subfield described above. This field is presented in ISUP signaling messages received at the gateway, such as IAM, SGM, etc. and takes the values enumerated in the following table.

Table 55: Generic Number (Presentation Restriction Indicator)

CDR Value	Definition
empty ("")	No Generic Number Presentation Restriction Indicator in the ISUP messages associated with this call

0	CPC_ADDR_PRESENTATION_INVALID
1	CPC_ADDR_PRESENTATION_ALLOWED
2	CPC_ADDR_PRESENTATION_RESTRICTED
3	CPC_ADDR_PRESENTATION_NUMBER_UNAVAILABLE
4	CPC_ADDR_PRESENTATION_SPARE
5	CPC_ADDR_PRESENTATION_MAX

Generic Number (Numbering Plan)

This two-digit field provides the numbering plan for the Generic Number "number" subfield (above) and is located in ISUP signaling messages received at gateway, such as IAM, SGM, etc. This field takes the values enumerated in the following table:

Table 56: Generic Number (Numbering Plan)

CDR Value	Definition
empty ("")	No Generic Number Numbering Plan in the ISUP messages associated with this call
0	CPC_ADDR_NUMBERING_PLAN_INVALID
1	CPC_ADDR_NUMBERING_PLAN_ISDN
2	CPC_ADDR_NUMBERING_PLAN_DATA
3	CPC_ADDR_NUMBERING_PLAN_TELEX
4	CPC_ADDR_NUMBERING_PLAN_PRIVATE
7	CPC_ADDR_NUMBERING_PLAN_OFFSET
8	CPC_ADDR_NUMBERING_PLAN_SPARE0
9	CPC_ADDR_NUMBERING_PLAN_SPARE1
10	CPC_ADDR_NUMBERING_PLAN_SPARE2
11	CPC_ADDR_NUMBERING_PLAN_SPARE3
12	CPC_ADDR_NUMBERING_PLAN_SPARE4
13	CPC_ADDR_NUMBERING_PLAN_SPARE5
14	CPC_ADDR_NUMBERING_PLAN_SPARE6
15	CPC_ADDR_NUMBERING_PLAN_SPARE7

Generic Number (Nature of Address)

This three-digit field provides the Nature of Address for the generic number "number" subfield described above. This field is presented in ISUP signaling messages received at the gateway, such as IAM, SGM, etc., and takes the values enumerated in the [Generic Number NOA Values table](#).

Generic Number (Type)

This two-digit field indicates the type of the Generic Number "number" subfield, and is presented in ISUP signaling messages received at the gateway, such as IAM, SGM, etc. The generic number "type" depends on the ISUP variant that is in effect. The 'Generic Number Type Values' table enumerates the valid types for particular variants.

Final ATTEMPT Indicator

This one-digit decimal field indicates whether this is the final record written for a call. This field applies only to the ATTEMPT record and takes the values enumerated in the following table:

Table 57: Final ATTEMPT indicator

CDR Value	Definition
empty ("")	No Final Attempt Indicator field in the record
0	This is an intermediate ATTEMPT record due to crankback
1	This is the final ATTEMPT record for this call

Originating Trunk Type

This is a one-byte hexadecimal field without a leading "0x". This field is either empty ("") or contains the hex code representing the originating trunk type. This field is associated with the corresponding field of the trunk group screen on the PSX, and takes the values enumerated in the following table.

Figure 6: Trunk Type Field Values

CDR Value	Definition
0	CPC_TRUNKGROUP_TYPE_NONE If the value is 0, the field is blank.
1	CPC_TRUNKGROUP_TYPE_NTT
2	CPC_TRUNKGROUP_TYPE_GC
3	CPC_TRUNKGROUP_TYPE_IMT2
4	CPC_TRUNKGROUP_TYPE_IMT3
5	CPC_TRUNKGROUP_TYPE_IMT
8	CPC_TRUNKGROUP_TYPE_LS
9	CPC_TRUNKGROUP_TYPE_LS3
10	CPC_TRUNKGROUP_TYPE_CT
13	CPC_TRUNKGROUP_TYPE_INT1
14	CPC_TRUNKGROUP_TYPE_INT2
15	CPC_TRUNKGROUP_TYPE_INT3
16	CPC_TRUNKGROUP_TYPE_INT4

17	CPC_TRUNKGROUP_TYPE_INT5
19	CPC_TRUNKGROUP_TYPE_INT7
23	CPC_TRUNKGROUP_TYPE_SSP
26	CPC_TRUNKGROUP_TYPE_INTS
28	CPC_TRUNKGROUP_TYPE_TST
29	CPC_TRUNKGROUP_TYPE_SIP

Terminating Trunk Type

A one-byte hex field without leading "0x" that takes values enumerated in the Final ATTEMPT indicator table. Field is either empty ("") or contains hex code representing terminating trunk type, and is associated with corresponding field of PSX trunk group screen.

Remote GSX/SBC Billing Indicator

This one-digit decimal field indicates whether a CDR record contains billing information from the destination GSX/SBC for GSX/SBC-GSX/SBC calls. This field is present when "Populate Remote GW Info" feature is enabled on ingress GSX/SBC, and is empty when the feature is disabled. This field always takes one of the values enumerated in the following table.

Table 58: Remote GSX/SBC Billing Indicator

CDR Value	Definition
empty ("")	Remote Gateway CDR Propagation feature is disabled.
0	The CDR record does not contain billing information from the destination GSX/SBC.
1	<p>The CDR record contains billing information of both originating GSX/SBC and destination GSX/SBC. The following five fields in the STOP and ATTEMPT records contain billing information from the destination GSX/SBC instead of the logging GSX/SBC.</p> <ul style="list-style-type: none"> • "Egress PSTN Circuit End Point" • "Egress IP Circuit End Point" • "Egress Signaling Type" • "Egress Protocol Variant Specific Data" • "Call Disconnect Reason Transmitted to Egress"

Extra Disconnect Reason

This four-digit decimal field details the GSX/SBC internal disconnect reason associated with the existing fields, "Call Disconnect Reason Transmitted to Ingress" and "Call Disconnect Reason Transmitted to Egress", when a call attempt fails.

This field is populated when a call is released before invoking call control in the GSX/SBC software. The underlying ISUP cause value 41 (TEMPORARY FAILURE) typically causes this field to be populated, but other ISUP cause values could also cause this entry (see [Call Termination Reason Codes](#)).

This field occurs only in ATTEMPT records when both of the following conditions are met. Otherwise, this field is empty ("").

- ACCOUNTING EARLY ATTEMPT records are enabled.
- Additional call disconnect information is available

The [Extra Disconnect Reason Codes](#) table details the contents of this field.

VPN Calling Private Presence Number

This field contains the VPN private presence number for VPN originated calls, and is populated from the PSX policy response. This field is only populated under following conditions:

- For VPN originated calls; empty ("") for all other calls.
- If private presence number is configured on the PSX; otherwise empty.

This field contains a string of up to 30 characters, or is empty. An example of this field is "8189".

VPN Calling Public Presence Number

This field contains the VPN public presence number for VPN originated calls in E-164 format. This field is populated from the PSX policy response. This field is only populated under following conditions:

- For VPN originated calls; empty ("") for all other calls.
- If private presence number is configured on the PSX; otherwise empty.

This field contains a string of up to 30 characters, or is empty. An example of this field is: "19786543210, 441793123456"

External Furnish Charging Info

This field contains up to 400 bytes of binary data (represented by up to 800 hexadecimal characters) generated by the PSX. The External Furnish Charging Info (FCI) data comes from external source such as a Service Control Point (SCP), a Global System for Mobile Communication (GSM), or a Service Control Function (SCF). This FCI field is only present while some external service populates the data for a call involving Customized Application of Mobile Enhanced Logic (CAMEL) services.

The PSX passes the FCI field to GSX/SBCSBC, and GSX/SBC passes it back for subsequent Policy Requests. Each byte of FCI data received by the GSX/SBC is represented as two hexadecimal characters (00 to FF) in CDR. The table "External Furnish Charging Info Sub-Fields", displays a high level view of FCI Field within an accounting record. The binary format of the "External Furnish Charging Info" data encoded for the Camel Application Part (CAP) variant is shown in the table "CAP Specific Data Format", below:

Figure 7: External Furnish Charging Info Sub-Fields

Sub-Field	Name	Max Len	Type	Description
1	FCI Variant ID	1	Decimal	Specifies whether CAP specific FCI data exists: <ul style="list-style-type: none"> • 0 - FCI_VARIANT_NONE • 1 - FCI_VARIANT_CAP
2	FCI Leg Count	1	Decimal	Specifies leg count or number of FCI Variant Specific Data Fields to follow. Must be "1" or "2". (Only "1" is available in this GSX/ {space var software release}).
3	FCI Variant Specific Data - Leg 1	162	Hexadecimal	CAP Specific Data (Table A-77).
4	FCI Variant Specific Data - Leg 2	162	Hexadecimal	CAP Specific Data (Table A-77).

Table 59: CAP Specific Data Format

Name	Max Len	Type	Description
Leg ID	1	Decimal	Must be Specifies which CAP specific data follows: <ul style="list-style-type: none"> • 1 - Leg 1 • 2 - Leg 2
FCI Data Length	1	Decimal	Specifies the length of data, in bytes, that follows. Must be 1-160.
FCI Data	160	Hexadecimal	CAP Specific Data. Must be the length in bytes that specified in FCI Data Length. Each byte is represented by two hexadecimal characters (00 to FF).

FCI data is divided into three portions:

- FCI Variant ID
- FCI Leg Count
- FCI Variant Specific Data

The FCI Variant ID contains a single byte FCI Variant ID value. This value is used to determine the format of the rest of the data. Value 1 is defined for CAP (this is the only value currently defined for this GSX/SBC software release). In the future this FCI Variant ID may be extended to include the Intelligent Networking Application Part (INAP) and others.

The Leg Count contains a single byte count indicating how many sets of data are present. For FCI data of CAP, there is one set of data per Leg ID. For example, if FCI data is only present for leg 1, then the Leg Count is set to 1. If FCI data is present for leg 1 and leg 2, then the Leg Count is set to "2".

For CAP variant specific data, each set of FCI data contains three sub-fields, Leg ID, Data Length, and Data. The Leg ID field determines the call leg. For CAP this is either 1 or 2. The Data Length field determines the variable length of the FCI data. The FCI data can be up to 160 bytes per leg. The actual FCI Data field contains the binary data as received by PSX from the external sources.

Ingress Policing Discards

This 20-digit decimal field contains the number of ingress packets discarded due to policing. If no ingress packets are discarded by policers, this field is empty ("").

Egress Policing Discards

This 20-digit decimal field contains the number of egress packets discarded due to policing. If no egress packets are discarded by policers, this field is empty ("").

Announcement ID

This five-digit decimal field contains the announcement ID of the last announcement played by the GSX/SBC for the call. If no announcement is played, this field is empty ("").

Source Information

This field describes the Source Information type for the call, based on the ISUP signaling received at the gateway, or from information received from the PSX. This two-digit decimal field takes a value of 0-15, enumerated in Table 79 . If no source information is received, this field is empty ("").

Table 60: Source Information

CDR Value	Definition
Empty	No Source Information
0	No Indication
1	Calling Party Information
2	Called Party Information
3	Connected Party Information
4	Redirecting Information
5	Redirection Information
6	Override Information
7 - 15	Spare

Partition ID

This four-digit decimal field describes the Partition used based on the ISUP signaling received at the gateway, or from information received from the PSX.

This field takes a decimal value in the range 0 to 4095. If no partition ID information is received, this field is empty ("").

Network ID

This five-digit decimal field describes the Network used based on ISUP signaling received at the gateway, or from information received from the PSX.

This field takes a decimal value in the range 0 to 32767. If no network information is received, this field is empty ("").

NCOS

This five-digit decimal field describes the N Class of Service (NCOS) for this call, based on the ISUP signaling received at the gateway, or from information received from the PSX.

This field takes a decimal value in the range 0 to 65535. If no NCOS information is received, this field is empty ("").

Ingress SRTP

This seven-character field displays the Crypto information used for setting up RTP and RTCP for the ingress leg. If Secure RTP is configured and used on the call, each field will contain four (4) sub-fields indicating the RTP authentication and encryption values and the RTCP authentication and encryption values selected. Each subfield is separated by ":". If regular RTP is used, the field is left blank.

The possible values for RTP and RTCP Authentication sub-fields are listed in the following table. The possible values for RTP and RTCP Encryption sub-fields are listed in the "Values for RTP and RTCP Encryption Sub-Field" table.

Table 61: Values for RTP and RTCP Authentication Sub-Field

Value	Authentication Type
0	None
1	SHA1_32

2	SHA1_80
---	---------

Table 62: Values for RTP and RTCP Encryption Sub-Field

Value	Encryption Type
0	None
1	AES_CM_128

The sub-field string:

"1:0:1:0"

indicates SHA1_80 authenticated SRTP, unencrypted SRTP, and SHA1_80 authenticated SRTCP, unencrypted SRTCP.

Egress SRTP

This seven-character field displays the Crypto information used for setting up RTP and RTCP for the egress leg. If Secure RTP is configured and used on the call, each field will contain four (4) sub-fields indicating the RTP authentication and encryption values and the RTCP authentication and encryption values selected. Each subfield is separated by ":". If regular RTP is used, the field is left blank. The possible values for RTP and RTCP Authentication sub-fields are listed in Table 76. The possible values for RTP and RTCP Encryption sub-fields are listed in the below table-.

The sub-field string:

"1:0:1:0"

indicates SHA1_80 authenticated SRTP, unencrypted SRTP, and SHA1_80 authenticated SRTP, unencrypted SRTP.

ISDN Access Indicator from the Forward Call Indicator

This field contains an enumerator describing the ISDN Access Indicator value from the Forward Call Indicator parameter. The Forward Call Indicator parameter is an optional parameter in incoming signaling messages such as IAM (ISUP), SETUP (ISDN), and INVITE (SIP). This field is either one decimal digit or empty (""). The defined enumerations are:

Table 63: ISDN Access Indicator Enumeration

Enumeration	Definition
empty	Forward Call Indicator parameter not present
0	ISUP not used throughout the call
1	ISUP used throughout the call

Call Disconnect Location

This field contains an enumeration that describes the Location value from the Cause Indicator parameter in the release message. The Cause Indicator parameter is an optional parameter in call disconnect signaling messages such as REL (ISUP) and DISCONNECT (ISDN). When the call is released by the network, this field will contain the Location value from the Cause Indicator parameter received by the SBC.

When the SBC initiates the release, this field will contain the Location value in the Cause Indicator parameter generated by the SBC. This field is 1-2 decimal digits or empty (""). The following table lists the defined enumerations.

Table 64: Call Disconnect Location Values

CDR Value	Q.850 Value	ENUMERATION Q.850 Description
-----------	-------------	-------------------------------

Empty	N/A	Location information not present
1	0	CPC_OP_CAI_LOCATION_USER User
2	1	CPC_OP_CAI_LOCATION_LOCAL_PRIVATE_NETWORK Private Network Serving the Local User (LPN)
3	2	CPC_OP_CAI_LOCATION_LOCAL_LOCAL_NETWORK Public Network Serving the Local User (LN)
4	3	CPC_OP_CAI_LOCATION_TRANSIT_NETWORK Transit Network (TN)
5	4	CPC_OP_CAI_LOCATION_REMOTE_LOCAL_NETWORK Public Network Serving the Remote User (RLN)
6	5	CPC_OP_CAI_LOCATION_REMOTE_PRIVATE_NETWORK Private Network Serving the Remote User (RPN)
7	6	CPC_OP_CAI_LOCATION_LOCAL_INTERFACE_CONTROLLED_BY_THIS_SIGNALING_LINK Reserved 6
8	7	CPC_OP_CAI_LOCATION_INTERNATIONAL_NETWORK International Network (INTL)
N/A	8	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Reserved 8*
N/A	9	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Reserved 9*
9	10	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Network Beyond Interworking Point (BI)
N/A	11	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Reserved 11*
10	12	CPC_OP_CAI_LOCATION_PRIVATE_BRANCH_EXCHANGE Reserved 12
N/A	13	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Reserved 13*
N/A	14	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Reserved 14*
N/A	15	CPC_OP_CAI_LOCATION_NETWORK_BEYOND_POINT Reserved 15*

Not currently supported by SBC. But if received, it is mapped to the ENUMERATION.

Call Disconnect Location Transmitted to Ingress

This field contains an enumeration describing the Location value from the Cause Indicator parameter in the release message sent to the ingress network. The Cause Indicator parameter is an optional parameter in call disconnect signaling messages such as REL (ISUP) and DISCONNECT (ISDN). This field is 1-2 decimal digits or empty ("").

The defined enumerations are shown in the table, "Location Value from Cause Indicator Parameter".

Call Disconnect Location Transmitted to Egress

This field contains an enumeration describing the Location value from the Cause Indicator parameter in the release message sent to the egress network. The Cause Indicator parameter is an optional parameter in call disconnect signaling messages such as REL (ISUP) and DISCONNECT (ISDN). This field is 1-2 decimal digits or empty ("").

The defined enumerations are shown in the table "Location Value from Cause Indicator Parameter".

Network Call Reference - Call Identity

This field contains an enumeration describing the Call Identity from ISUP Network Call Reference parameter. The Network Call Reference parameter is an optional signaling parameter. This field is up to eight decimal digits or empty ("").

Network Call Reference - Signaling Point Code

This field contains an enumeration describing the Signalling Point Code from the optional ISUP Network Call Reference parameter. This field is up to five decimal digits or empty ("").

Ingress ISUP MIME Protocol Variant Specific Data

The ingress ISUP MIME Protocol Variant Specific Data. A string with delimiters "" or empty. The string has multiple sub-fields separated by a comma (.). An empty sub-field is represented by either two consecutive commas (,,) or by comma-space-comma (,). Whenever any ingress service group has ISUP MIME Protocol Variant Specific Data to log, this data is logged to this field.

An example of this field is:

"JAPAN,0,0, ,,,,,,0x04"

See the following for the Ingress ISUP MIME Protocol Variant Specific Data:

- [Japan ISUP Variant Sub-field Descriptions](#)

Egress ISUP MIME Protocol Variant Specific Data

The egress ISUP MIME Protocol Variant Specific Data. A string with delimiters "" or empty. The string has multiple sub-fields separated by a comma (.). An empty sub-field is represented by either two consecutive commas (,,) or by comma-space-comma (,). Whenever any egress service group has ISUP MIME Protocol Variant Specific Data to log, this data is logged to this field.

An example of this field is:

"JAPAN,0,0, ,,,,,,0x04"

See the following for the Egress ISUP MIME Protocol Variant Specific Data:

- [Japan ISUP Variant Sub-field Descriptions](#)

Modem Tone Type

This field represents the types of detected Modem tones in a call. If no modem is detected, this field is empty. The following table lists the possible Modem tone types.

Table 65: Modem Tone Types

CDR Value	Definition
1	Full Duplex Type Modem Tone Detected

2	T30 FAX Type of Modem Tone Detected
3	Half Duplex V23 Type of Modem Tone Detected
4	Half Duplex Other Type of Modem Tone Detected

Modem Tone Signal Level

The field represents the power level of Modem Tone Signal. The value returned is in -dBm0 with a range from 0 to 36 where 0 represents the strongest signal and 36 the weakest signal. If no modem is detected, this field is empty.

Video Codec Data

This field displays the Video Codec Data and contains four subfields separated by commas. The maximum length of this field is 512 characters, including all commas and double quotes ("").

The Video Bandwidth subfields are empty in START/INTERMEDIATE records. The Video Call Duration subfields are empty in START/INTERMEDIATE/ATTEMPT records.

The format of the Video Codec Data field is:

```
"Bandwidth,Duration,<localIpAddr>:<localIpPort>/<remoteIpAddr>:<remoteIpPort>,<localIpAddr>:<localIpPort>/<remoteIpAddr>:<remoteIpPort>"
```

An example of this field is:

```
"64,250,10.1.1.1:40/10.1.1.2:80,10.1.1.1:40/10.1.1.2:80"
```

The following table details each of the subfields.

Table 66: Video Codec Data Subfields

Sub Field	Name	Type	Description
1	Bandwidth	Decimal	The IP bandwidth reserved for the video call in kbps. Decimal value between 0 - 4294967295
2	Duration	Decimal	The Total duration (in 10 ms increments) that the video was active for the call. Decimal value between 0 - 4294967295
3	Ingress IP Video Endpoint	Characters	The local IP address and port, and the remote IP address and port for the Ingress IP video endpoint in the following format: <LOCALIPADDR>:<LOCALIPPORT>/<REMOTEIPADDR>:<REMOTEIPPORT> LOCALIPADDR - dotted decimal format, up to 15 characters LOCALIPPORT - value between 0 - 65535 REMOTEIPADDR - dotted decimal format, up to 15 characters REMOTEIPPORT - value between 0 - 65535
4	Egress IP Video Endpoint	Characters	The local IP address and port, and the remote IP address and port for the Egress IP video endpoint in the following format: <LOCALIPADDR>:<LOCALIPPORT>/<REMOTEIPADDR>:<REMOTEIPPORT> LOCALIPADDR - dotted decimal format, up to 15 characters LOCALIPPORT - value between 0 - 65535 REMOTEIPADDR - dotted decimal format, up to 15 characters REMOTEIPPORT - value between 0 - 65535

Video Codec Statistics

Displays statistical data related to the Video Codec feature with up to 14 subfields () separated by a comma (,). The maximum length of this field is 512 characters, including all commas and double quotes ("").

Each subfield contains a decimal value between 0 - 4294967295.

An example of this field is:

"60,10,500,2100,2,0,100,5,500,10,0,0,0,"

Table 67: Video Codec Statistics Subfields

SubField	Description
1	Ingress number of video bytes sent
2	Ingress number of video packets sent
3	Ingress number of video bytes received
4	Ingress number of video packets received
5	Ingress number of video packets lost
6	Ingress maximum video packet Outage
7	Ingress video policer discards
8	Egress number of video bytes sent
9	Egress number of video packets sent
10	Egress number of video bytes received
11	Egress number of video packets received
12	Egress number of video packets lost
13	Egress maximum video packet outage
14	Egress video policer discards

SVS Customer

The Customer field indicates the Trunk Group Number received in the Route Information K-ISUP parameter used to identify the ingress carrier. Decimal value 1 to 4 digits or empty.

Call to Test PSX

The Call to Test PSX field indicates if a call is for a Test PSX, and is determined based on the Calling Party Number. Boolean field with the following usage:

- Empty – Normal call.
- 1 – Call is determined to be a Test Call and routed to the Test PSX.

PSX Overlap Route Requests

The PSX Overlap Route Requests field indicates the number of routing requests sent to the PSX by the GSX/SBC for each call when the Called

Party Number (CdPN) was not complete. This field is only populated for Overlap calls and is applicable to all protocols (ISUP, BT-IUP, SIP, SIP-I, ISDN, H.323, and CAS). Decimal value, 1 to 2 decimal characters or empty.

Call Setup Delay

The Call Setup Delay field indicates the setup latencies of Key Performance Indicators (KPI) for the purpose of troubleshooting and monitoring and contains decimal-value sub-fields separated by commas (.). The maximum length of this field is 21 characters, including all commas and double quotes ("").

Subfields:

- **Request Latency** – (1-3 digits, or empty) Latency in milliseconds between the last INVITE receipt from the upstream element and dispatch to the downstream element (not counting retransmissions) before the first non-100 and non-484 response is received from the downstream element.
- **Downstream Latency** – (1-5 digits, or empty) Latency in milliseconds between the last INVITE dispatch to the downstream element (not counting retransmissions) and the first non-100 and non-484 response receipt from the downstream element.
- **Response Latency** – (1-3 digits, or empty) Latency in milliseconds between the first non-100 and non-484 response receipt from the downstream element and dispatch to the upstream element.
- **Total Latency** – (1-5 digits, or empty) Latency in milliseconds between the last INVITE receipt from the upstream element (not counting retransmissions) and the first non-100 and non-484 response dispatch to upstream element.

An example of a Call Setup Delay field is:

"88,931,19,983"

Overload Status

This field (decimal, 1-3 digits, or empty) indicates the congestion level for monitored resources on the node or server that processes this call.

- Single digit values (0 through 3) indicate the System/Node Congestion Level.
- Two or three digit values indicate the server slot number and the Server Congestion Level. For example:
- A value of "91" indicates Server Slot 9, Congestion level 1
- A value of "151" indicates Server Slot 15, Congestion level 1

The Congestion Levels are as follows:

0 - No Congestion

1 - System Machine Congestion (MC) Level one congestion

2 - System Machine Congestion (MC) Level two congestion

3 - System Machine Congestion (MC) Level three congestion

Ingress DSP Data

The Ingress DSP data field is used to report Ingress DSP Data to assist in troubleshooting and monitoring. Each bit indicates a setting where Bit 0 is LSB and bit 15 is MSB. An example of this field is: "12FF".

Table 68: Ingress/Egress Bit Fields

Bit	Definition	Description
0	RFC2833 packet transmit enabled (yes/no)	Channel configuration status for both VPAD and XPAD. 1: Enabled 0: Disabled
1	RFC2833 packet receive enabled (yes/no)	Channel configuration status for both VPAD and XPAD. 1: Enabled 0: Disabled

2	RFC2833 packets transmitted (yes/no)	Channel operational event for both VPAD and XPAD. 1: Transmitted packet count > 0 0: Transmitted packet count = 0
3	RFC2833 packets received (yes/no)	Channel operational event for both VPAD and XPAD. 1: Transmitted packet count > 0 0: Transmitted packet count = 0
4	OOB messaging enabled (yes/no)	Channel configuration status for both VPAD and XPAD. 1: Enabled 0: Disabled
5	OOB messaging transmitted (yes/no)	Channel configuration status for both VPAD and XPAD. 1: Enabled 0: Disabled
6	OOB messaging received (yes/no)	Channel operational event for both VPAD and XPAD. OOB DTMF packets are processed on TNPAD. VPAD or XPAD only receive the event message. 1: Received message count > 0 0: Received message count = 0
7	DTMF tone detect enabled? (yes/no)	Channel configuration status for both VPAD and XPAD. 1: Enabled 0: Disabled
8	DTMF removed enabled? (yes/no)	Channel configuration status for both VPAD and XPAD. 1: Enabled 0: Disabled
9	DTMF digits detected? (yes/no)	Channel operational event for both VPAD and XPAD. 1: Detected packet count > 0 0: Detected packet count = 0
10	SIDs generated (yes/no)	Channel operational event for both VPAD and XPAD. 1: Generated packet count > 0 0: Generated packet count = 0
11	SIDs received (yes/no)	Channel operational event for both VPAD and XPAD. 1: Received packet count > 0 0: Received packet count = 0
12	ECM used (yes/no)	Channel T38 fax operational state for XPAD. The current version T38 firmware (third party code) is not providing information on whether ECM mode is in use or not. A new version of T38 provides the ECM as an event message only on C55 DSP (GNS, CNS4x, CNS8x, SPS80). 1: ECM is in use 0: ECM is not in use
13-15	Spare	

Table 69: Bit Value Meaning

Bit Value	Meaning
-----------	---------

0	No
1	Yes

Egress DSP Data

The Egress DSP data field is used for reporting Egress DSP Data to assist in troubleshooting and monitoring, where each bit indicates a setting. An example of this field is: "12FF".

For details on Bit fields and Bit values, see the tables in "Ingress DSP Data" section above.

Call Recorded Indicator

This field is populated for SIPrec and NICE-based call recording. NICE Systems using their forwarding based protocol (based on the SIP forwarding extension) provide a mechanism for recording calls. SBC 9000 acts as a forwarding capable device which routes the content of an active call to a recording system. When a call is tapped an indication is provided in the "STOP" CDR field for that call along with the transmit and receive RTP stream IP address and port.

This field specifies whether the NICE Systems recording feature is enabled or disabled. It can accept "Yes" or empty. The length of this field can be up to 3 characters.

Call Recorded RTP Tx IP Address

This field is populated for SIPrec and NICE-based call recording. This field contains the RTP transmitting IP address if the NICE Systems recording feature is enabled. If the NICE systems recording feature is not enabled, then this field is empty. The length of this field can be up to 39 characters. IP address can be in IPv4 or IPv6 format. For IPv4 address type, use the dotted decimal format (for example, 128.1.22.233) and for IPv6 address type, use the hexadecimal format (for example, 3ffe:1900:4545:3:200:f8ff:fe21:67cf (up to 39 characters)).

Call Recorded RTP Tx Port Number

This field is populated for SIPrec and NICE-based call recording. This field contains the RTP transmitting port number if the NICE Systems recording feature is enabled. If the NICE systems recording feature is not enabled, then this field is empty. The length of this field can be up to 5 characters.

Call Recorded RTP Rv IP Address

This field is populated for SIPrec and NICE-based call recording. This field contains the RTP receiving IP address if the NICE Systems recording feature is enabled. If the NICE systems recording feature is not enabled, then this field is empty. The length of this field can be up to 39 characters. IP address can be in IPv4 or IPv6 format. For IPv4 address type, use the dotted decimal format (for example, 128.1.22.233) and for IPv6 address type, use the hexadecimal format (for example, 3ffe:1900:4545:3:200:f8ff:fe21:67cf (up to 39 characters)).

Call Recorded RTP Rv Port Number

This field is populated for SIPrec and NICE-based call recording. This field contains the RTP receiving port number if the NICE Systems recording feature is enabled. If the NICE systems recording feature is not enabled, then this field is empty. The length of this field can be up to 5 characters.

MLPP Precedence Level

This field indicates the precedence level of the call. The values are:

- 0 – FLASH OVERRIDE (highest)
- 1 – FLASH
- 2 – IMMEDIATE
- 3 – PRIORITY
- 4 – ROUTINE.



If field is empty, then MLPP feature is not enabled.

Global Charge Reference (GCR)

This field is a 20-byte array used for Call Data Record (CDR) correlation. Each byte contains two ASCII characters. ISUP Signaling profile flag GCR is supported on ingress or egress side.

Example: 456f1c000300000025180000

Ingress Inbound R-Factor

This decimal field displays the R-Factor of the inbound RTP stream for the ingress trunk group.

The length of this field is up to two places.

Ingress Outbound R-Factor

This decimal field displays the R-Factor of the outbound RTP stream for the ingress trunk group.

The length of this field is up to two places.

Egress Inbound R-Factor

This decimal field displays the R-Factor of the inbound RTP stream for the egress trunk group.

The length of this field is up to two places.

Egress Outbound R-Factor

This decimal field displays the R-Factor of the outbound RTP stream for the egress trunk group.

The length of this field is up to two places.

Media Stream Data

This field provides the data for all core audio, video, and text streams.

This compound field shows transport-related information, such as:

- Media type (Information about streams that were once part of the call but were removed by the time the call is completed may not be recorded.)
- Local and Remote IP and Port
- SRTP encryption and authentication algorithms
- Bandwidth reserved on the interface

Example:

Media Stream Data	[STO:230]	
Number of Streams	[sf: 1]	06
mediaType1	[sf: 2]	audio
streamIndex1	[sf: 3]	1
ingress codec used1	[sf: 4]	G711
ingress local IP1	[sf: 5]	10.54.54.26:1032
ingress remote IP1	[sf: 6]	10.70.54.114:1026
ingress SRTP Info1	[sf: 7]	0:0:0:0
ingress bw1	[sf: 8]	124
egress codec Used1	[sf: 9]	G711
egress local IP1	[sf: 10]	10.54.56.26:1032
egress remote IP1	[sf: 11]	10.70.59.103:1036
egress SRTP info1	[sf: 12]	0:0:0:0
egress bw1	[sf: 13]	124
ingress private leg local EP1	[sf: 14]	10.54.4.101:1116
ingress private leg remote EP1	[sf: 15]	10.54.4.171:1094
egress private leg local EP1	[sf: 16]	10.54.4.101:1118
egress private leg remote EP1	[sf: 17]	10.54.6.171:1090
mediaType2	[sf: 18]	video
streamIndex2	[sf: 19]	2
ingress codec used 2	[sf: 20]	H263
ingress local IP2	[sf: 21]	10.54.54.26:1034
ingress remote IP2	[sf: 22]	10.70.54.114:1024
ingress SRTP info2	[sf: 23]	0:0:0:0
ingress bw2	[sf: 24]	2000
egress codec used2	[sf: 25]	H263
egress local IP2	[sf: 26]	10.54.56.26:1034
egress remote IP2	[sf: 27]	10.70.59.103:1034
egress SRTP info2	[sf: 28]	0:0:0:0
egress bw2	[sf: 29]	2000
ingress private leg local EP2	[sf: 30]	10.54.4.101:1116

ingress private leg remote EP2	[sf: 31]	10.54.4.171:1094
egress private leg local EP2	[sf: 32]	10.54.4.101:1118
egress private leg remote EP2	[sf: 33]	10.54.6.171:1090
mediaType3	[sf: 34]	text
streamIndex3	[sf: 35]	3
ingress codec used3	[sf: 36]	T140
ingress local IP3	[sf: 37]	10.54.54.26:1036
ingress remote IP3	[sf: 38]	10.70.54.114:1028
ingress SRTP info3	[sf: 39]	0:0:0:0
ingress bw3	[sf: 40]	4
egress codec used3	[sf: 41]	T140
egress local IP3	[sf: 42]	10.54.56.26:1036
egress remote IP3	[sf: 43]	10.70.59.103:1038
egress SRTP info3	[sf: 44]	0:0:0:0
egress bw3	[sf: 45]	4
ingress private leg local EP3	[sf: 46]	10.54.4.101:1116
ingress private leg remote EP3	[sf: 47]	10.54.4.171:1094
egress private leg local EP3	[sf: 48]	10.54.4.101:1118
egress private leg remote EP3	[sf: 49]	10.54.6.171:1090
mediaType4	[sf: 50]	audio
streamIndex4	[sf: 51]	4
ingress codec used4	[sf: 52]	G711
ingress local IP4	[sf: 53]	10.54.54.26:1032
ingress remote IP4	[sf: 54]	10.70.54.114:1026
ingress SRTP info4	[sf: 55]	0:0:0:0
ingress bw4	[sf: 56]	124
egress codec used4	[sf: 57]	G711
egress local IP4	[sf: 58]	10.54.56.26:1032
egress remote IP4	[sf: 59]	10.70.59.103:1036
egress SRTP info4	[sf: 60]	0:0:0:0
egress bw4	[sf: 61]	124
ingress private leg local EP4	[sf: 62]	10.54.4.101:1116

ingress private leg remote EP4	[sf: 63]	10.54.4.171:1094
egress private leg local EP4	[sf: 64]	10.54.4.101:1118
egress private leg remote EP4	[sf: 65]	10.54.6.171:1090
mediaType5	[sf: 66]	video
streamIndex5	[sf: 67]	5
ingress codec used5	[sf: 68]	H263
ingress local IP5	[sf: 69]	10.54.54.26:1034
ingress remote IP5	[sf: 70]	10.70.54.114:1024
ingress SRTP info5	[sf: 71]	0:0:0:0
ingress bw5	[sf: 72]	2000
egress codec used5	[sf: 73]	H263
egress local IP5	[sf: 74]	10.54.56.26:1034
egress remote IP5	[sf: 75]	10.70.59.103:1034
egress SRTP info5	[sf: 76]	0:0:0:0
egress bw5	[sf: 77]	2000
ingress private leg local EP5	[sf: 78]	10.54.4.101:1116
ingress private leg remote EP5	[sf: 79]	10.54.4.171:1094
egress private leg local EP5	[sf: 80]	10.54.4.101:1118
egress private leg remote EP5	[sf: 81]	10.54.6.171:1090
mediaType6	[sf: 82]	text
streamIndex6	[sf: 83]	6
ingress codec used6	[sf: 84]	T140
ingress local IP6	[sf: 85]	10.54.54.26:1036
ingress remote IP6	[sf: 86]	10.70.54.114:1028
ingress SRTP info6	[sf: 87]	0:0:0:0
ingress bw6	[sf: 88]	4
egress codec used6	[sf: 89]	T140
egress local IP6	[sf: 90]	10.54.56.26:1036
egress remote IP6	[sf: 91]	10.70.59.103:1038
egress SRTP info6	[sf: 92]	0:0:0:0
egress bw6	[sf: 93]	4
ingress private leg local EP6	[sf: 94]	10.54.4.101:1116

ingress private leg remote EP6	[sf: 95]	10.54.4.171:1094
egress private leg local EP6	[sf: 96]	10.54.4.101:1118
egress private leg remote EP6	[sf: 97]	10.54.6.171:1090

Note

- The Media Stream Data field (230 of STOP record) is updated to log TCP/LYNC/APPSHARE, when the SBC accepts a media stream of media type of desktop sharing on protocol TCP/RTP/AVP or TCP/RTP/SAVP.
- The length of the Media Stream Data field depends on the "Number of Streams", which is the first sub-field. For a call with single stream, only sub-field #1 to sub-field #17 will be present. For calls with multiple streams, sub-field #2 to sub-field #17 will be repeated for each stream.

Media Stream Stats

This field provides the statistics for all core audio, video, and text streams.

Example:

Media Stream Statistics	[STO:231]	
Number of Streams	[sf: 1]	03
mediaType1	[sf: 2]	audio
streamIndex1	[sf: 3]	1
ingress packetSent1	[sf: 4]	3246
ingress packetReceived1	[sf: 5]	3091
ingress octetSent1	[sf: 6]	519360
ingress octetReceived1	[sf: 7]	494560
ingress packetLost1	[sf: 8]	0
ingress packetDiscarded1	[sf: 9]	0
egress packetSent1	[sf: 10]	3091
egress packetReceived1	[sf: 11]	3246
egress octetSent1	[sf: 12]	494560
egress octetReceived1	[sf: 13]	519360
egress packetLost1	[sf: 14]	0
egress packetDiscarded1	[sf: 15]	0
mediaType2	[sf: 16]	video
streamIndex2	[sf: 17]	2
ingress packetSent2	[sf: 18]	1396

ingress packetReceived2	[sf: 19]	1614
ingress octetSent2	[sf: 20]	532687
ingress octetReceived2	[sf: 21]	831526
ingress packetLost2	[sf: 22]	32
ingress packetDiscarded2	[sf: 23]	0
egress packetSent2	[sf: 24]	1614
egress packetReceived2	[sf: 25]	1396
egress octetSent2	[sf: 26]	831526
egress octetReceived2	[sf: 27]	532687
egress packetLost2	[sf: 28]	34
egress packetDiscarded2	[sf: 29]	0
mediaType3	[sf: 30]	text
streamIndex3	[sf: 31]	3
ingress packetSent3	[sf: 32]	29
ingress packetReceived3	[sf: 33]	52
ingress octetSent3	[sf: 34]	481
ingress octetReceived3	[sf: 35]	824
ingress packetLost3	[sf: 36]	0
ingress packetDiscarded3	[sf: 37]	0
egress packetSent3	[sf: 38]	52
egress packetReceived3	[sf: 39]	29
egress octetSent3	[sf: 40]	824
egress octetReceived3	[sf: 41]	481
egress packetLost3	[sf: 42]	0
egress packetDiscarded3	[sf: 43]	0



The Media Stream Stats field (231 of STOP record) is updated to log TCP/LYNC/APPSHARE, when the SBC accepts a media stream of media type of desktop sharing on protocol TCP/RTP/AVP or TCP/RTP/SAVP.

Transcode Indicator

Transcode Indicator is a Boolean value to indicate whether transcoded is used. A value of "1" indicates transcoding between the two call legs and "0" means no transcoding.

HD Codec Rate

HD Codec Rate is a decimal value field to hold the HD codec rate per leg.

Remote Audio RTCP Learned Metrics

Remote RTCP statistics are populated in STOP CDR for both pass-through and transcoded calls based on the following conditions, as applicable:

- For Pass-through calls, RTCP termination is enabled on only one leg.
- For Transcoded calls, remote statistics is populated for the call leg which has RTCP enabled.

This feature is supported in the following call scenarios:

- SIP
- H323
- SIP-I
- Gw-Gw (with above protocols)
- IPv4
- IPv6

Remote Ingress Audio RTCP Learned Metrics

The Remote Ingress Audio RTCP Learned Metrics field indicates statistics received from Ingress endpoint in SR/RR RTCP Packet. The maximum length of this field is 1024 characters, including all commas and double quotes ("").

Subfields:

- **Ingress Packets Sent** - Received as part of RTCP Packet from Ingress. It is the total number of RTP data packets transmitted by the sender since starting transmission up until the time this SR packet was generated.
- **Ingress Octets Sent** - Received as part of RTCP Packet from Ingress. It is the total number of payload octets (i.e., not including header or padding) transmitted in RTP data packets by the sender since starting transmission up until the time this SR packet was generated.
- **Ingress SSRC** - Received as part of RTCP Packet from Ingress. It is the identifier of the source to which the information in this reception report block pertains.
- **Ingress Fraction Lost** - Received as part of RTCP Packet from Ingress. It is the fraction of RTP data packets from source SSRC_n lost since the previous SR or RR packet was sent and expressed as a fixed point number with the binary point at the left edge of the field.
- **Ingress Interarrival Jitter** - Received as part of RTCP Packet from Ingress. It is an estimate of the statistical variance of the RTP data packet inter-arrival time measured in timestamp units and expressed as an unsigned integer
- **Ingress Cumulative Number of Packet Lost** - Received as part of RTCP Packet from Ingress. It is the total number of RTP data packets from source SSRC_n that have been lost since the beginning of reception.
- **Ingress Extended Highest Sequence Number** - Received as part of RTCP Packet from Ingress. It is the highest sequence number received in an RTP data packet from source SSRC_n.
- **Ingress Round Trip Time** - This field is not received as part of RTCP Packet from Ingress. It is calculated using available RTCP statistics.

An example of a Remote Ingress Audio RTCP Learned Metrics field is: "137,71200,0x452272d,0,0,0,28853,193".

Remote Egress Audio RTCP Learned Metrics

The Remote Egress Audio RTCP Learned Metrics field indicates statistics received from Egress endpoint in SR/RR RTCP Packet. The maximum length of this field is 1024 characters, including all commas and double quotes ("").

Subfields:

Egress Packets Sent - Received as part of RTCP Packet from Egress. It is the total number of RTP data packets transmitted by the sender since starting transmission up until the time this SR packet was generated.

- **Egress Octets Sent** - Received as part of RTCP Packet from Egress. It is the total number of payload octets (i.e., not including header or padding) transmitted in RTP data packets by the sender since starting transmission up until the time this SR packet was generated.
- **Egress SSRC** - Received as part of RTCP Packet from Egress. It is the identifier of the source to which the information in this reception report block pertains.
- **Egress Fraction Lost** - Received as part of RTCP Packet from Egress. It is the fraction of RTP data packets from source SSRC_n lost

since the previous SR or RR packet was sent and expressed as a fixed point number with the binary point at the left edge of the field.

- **Egress Interarrival Jitter** - Received as part of RTCP Packet from Egress. It is an estimate of the statistical variance of the RTP data packet inter-arrival time measured in timestamp units and expressed as an unsigned integer.
- **Egress Cumulative Number of Packet Lost** - Received as part of RTCP Packet from Egress. It is the total number of RTP data packets from source SSRC_n that have been lost since the beginning of reception.
- **Egress Extended Highest Sequence Number** - Received as part of RTCP Packet from Egress. It is the highest sequence number received in an RTP data packet from source SSRC_n.
- **Egress Round Trip Time** - This field is not received as part of RTCP Packet from Egress. It is calculated using available RTCP statistics.

An example of a Remote Egress Audio RTCP Learned Metrics field is: "137,71200,0x452272d,0,0,0,28853,193".

MTA Information

SBC Call Data Record (CDRs) support storing Major Trading Area (MTA) information in CDRs. MTA is a boundary that segments a country for telecommunication licensing and consists of several Basic Trading Areas (BTAs). PSX can route the call based on MTA of calling and called parties. This record is a string, which may contain up to 49 characters. The content of this record depends upon the feature control profile and NPA NXX configuration in PSX.

If PSX determines MTA for calling and called parties, then PSX returns this information to SBC. Otherwise, the CDR field **MTA Information** is empty ("").

This field is formatted as a quoted string of four comma-separated values. The values include; Origination Primary MTA, Origination Secondary MTA, Destination Primary MTA, and Destination Secondary MTA. For example, ..., "18,11,08,11"....

The following table provides the MTA stream accounting information:

Table 70: MTA Stream Accounting Information

ID	Type
241	String

VBR Billing Data

SBC Call Data Record (CDRs) support storing Value Based Routing (VBR) information in CDRs.

The following fields are used to populate VBR details in SBC CDRs:

- VBR Common Billing Data
- VBR Route Billing Data

The following table provides the VBR stream accounting information:

Table 71: VBR Stream Accounting Information

Field Names	ID	Type
VBR Common Billing Data	242	String
VBR Route Billing Data	243	String

VBR Common Billing Data

This record is a string of 256 characters. SBC receives the VBR Billing Information in the policy response and writes it to CDR.

This field is optional and is populated when the PSX returns the VBR Route.

The PSX captures the following common or global VBR information and sends it in the policy response:

- Destination
- Country Code
- Customer Id
- Offer Id
- Sell/Offer Price

The Sell/Offer price is present, if an Offer rate sheet is configured on the selected offer. SBC includes this data in the VBR Common Billing Data.

VBR Route Billing Data

This record is a string of 256 characters. For every route that is part of VBR routing label, the billing information is captured as per route data in the policy/trigger response by PSX and is sent to SBC. SBC treats it as opaque data and writes it to CDR. This field is optional. This is populated when the PSX returns a VBR Route.

For every route (routing label route) within a policy response, the following information is captured:

- Vendor ID
- Cost
- Jurisdiction

The Vendor Id represents the vendor who owns the Trunk Group. The cost is derived from active vendor rate sheet. The jurisdiction represents the jurisdiction associated with the selected rate sheet entry of the vendor. This may vary from vendor to vendor. For non VBR routes, this AVP will be empty. A maximum of 10 routes is considered for VBR Billing data purposes.

Access Network Charging Information

SBC includes the access-network-charging-info parameter received through PCRF over the Rx or Gx interfaces in the P-charging-vector header field in the first request or response originated by UE. When the charging information is available in SBC after the local resource reservation is complete, UE traverses the SBC. If P-CSCF receives Access Network Charging Information from PCRF server, P-CSCF sends Access Network Charging Information in the CAM records.

The format for Access Network Charging Information is "Character string, Max length 130".

Example: ggsn=10.10.0.1; auth-token=0;pdp-info=pdp-item=uniqueNum;pdp-dig=no;gcid=gclidValue;flow-id={{0,0}}

Access Transfer Specific Data

The location records for Access Transfer Specific Data are START, STOP, ATTEMPT, and INTERMEDIATE.

The following table details each of the sub-fields of Access Transfer Specific Data:

Table 72: Access Transfer Specific Data sub-fields

Sub Field ID	Field Description	Type	Max Length	Example/Possible values
1	Feature ID	STRING	4	ATCF, EATF
2	Transfer Type	STRING	5	PS2CS/CS2PS
3	Source Access call GCID	ULONG	10	GCID
4	Target Access call GCID	ULONG	10	GCID
5	Original Calling Number	STRING	30	12345678
6	Original Called Number	STRING	30	32654879



Both the Original and Target Call (Handover call) are considered as individual calls and have separate CDR that is generated for each call. In case of a PS-to-PS handover call, the field "Access Transfer Specific Data" of the Target call contains the following information:

- Transfer Type as "PS2PS"
- Source access GCID - Contains the GCID of the Original call which is handed over
- Target access GCID - Contains the GCID of the Target call

All PS-to-PS Handover call can be identified by the "Transfer Type" indicated above and the source call which is handed over can be identified from the Source access GCID. The CDR of the original call does not have any indication that it is handed over to a new Target call. Any correlation of CDR must come backward by identifying the Target call and then tracing back the Original Call.

Emergency Indicator

The "Emergency Indicator" indicates the IMS session as an IMS emergency session or IMS registration. This covers both INVITE and REGISTER messages.

The format for Emergency Indicator is "Boolean of max length 1".

Ingress Dtls-Srtp: Dtls-Srtp status info

The "Ingress Dtls-Srtp: Dtls-Srtp status info" indicates if the DTLS negotiation in the corresponding stream is successfully completed, the value is enabled or disabled for an ingress call.

The supported values are:

- Empty (dtls disabled)
- 1 (dtls termination)
- 2 (dtls relay)

Egress Dtls-Srtp: Dtls-Srtp status info

The "Egress Dtls-Srtp: Dtls-Srtp status info" indicates if the DTLS negotiation in the corresponding stream is successfully completed, the value is enabled or disabled for an egress call.

The supported values are:

- Empty (dtls disabled)
- 1 (dtls termination)
- 2 (dtls relay)

UE Roaming Status

The format for UE Roving Staus is as follows:

Values	Meaning
Empty	Without roaming
1	Subscriber
2	Called
3	Calling

Ingress Signaled Session Bandwidth in kbps

Prints the session bandwidth value signaled by Ingress EP.

Ingress Rx Computed Session Bandwidth in kbps

Computed using the traffic received from Ingress Peer (session) for the call duration that is,

Computed Rx Session Bandwidth = Sum of all received bytes for call adjusted to Link value/Call Duration.

Ingress Tx Computed Session Bandwidth in kbps

Computed using the traffic sent to Ingress Peer (session) for the call duration that is,

Computed Tx Session Bandwidth = Sum of all transmitted bytes for call leg adjusted to Link value/Call Duration.

Ingress Configured Bandwidth Reduction Factor

Prints the reduction factor configured in the Ingress PSP, used for this call.

Ingress Estimated Bandwidth Reduction Factor

Represents the factor that is resulted in the measured bandwidth for the ingress relative to the allocated bandwidth. That is,

Estimated Reduction Factor = $1 - (\text{Maximum of Send and Received Computed Bandwidth} / \text{Signaled Bandwidth})$.

Egress Signaled Session Bandwidth in kbps

Prints the session bandwidth value signaled by Egress EP.

Egress Rx Computed Session Bandwidth in kbps

Computed using traffic received from Egress Peer (session) for the call duration that is,

Computed Rx Session Bandwidth = Sum of all received bytes for call adjusted to Link value/Call Duration.

Egress Tx Computed Session Bandwidth in kbp

Computed using traffic sent to Egress Peer (session) for the call duration that is,

Computed Tx Session Bandwidth = Sum of all transmitted bytes for call leg adjusted to Link value/Call Duration.

Egress Configured Bandwidth Reduction Factor

Prints the reduction factor configured in the Egress PSP, used for this call.

Egress Estimated Bandwidth Reduction Factor

Represent the factor that would have resulted in the measured bandwidth for the egress relative to the allocated bandwidth. That is,

Estimated Reduction Factor = $1 - (\text{Maximum of Send and Received Computed Bandwidth} / \text{Signaled Bandwidth})$

Additional Media Stream Statistics

Additional Media Stream Statistics is a string field and contains additional sub-fields. The sub-fields are comma separated values, which are included in the sting.

The following table describes the sub-fields for Additional Media Stream Statistics:

Sub-field Number	Additional Media Stream Statistics	Size
1	Entries per stream	2 characters, for example: 4
2	Number of streams	2 characters, for example: 06
3	ingress lostPktBursts1	5 characters, for example: 65535
4	ingress lostPktSingles1	5 characters, for example: 65535
5	ingress codecParams1	32 characters, for example: P:27:4;8
6	egress lostPktBursts1	5 characters, for example: 65535
7	egress lostPktSingles1	5 characters, for example: 65535
8	egress codecParams1	32 characters, for example: P:27:4;8
9	transcode indicator1	0 or 1 character, for example: 1
10	ingress lostPktBursts2	5 characters, for example: 65535
11	ingress lostPktSingles2	5 characters, for example: 65535
12	ingress codecParams2	This field is applicable only for stream 1.
13	egress lostPktBursts2	5 characters, for example: 65535
14	egress lostPktSingles2	5 characters, for example: 65535
15	egress codecParams2	This field is applicable only for stream 1.
16	transcode indicator2	0 character, for example: 0
17	ingress lostPktBursts3	5 characters, for example: 65535
18	ingress lostPktSingles3	5 characters, for example: 65535
19	ingress codecParams3	This field is applicable only for stream 1.
20	egress lostPktBursts3	5 characters, for example: 65535
21	egress lostPktSingles3	5 characters, for example: 65535
22	egress codecParams3	This field is applicable only for stream 1.
23	transcode indicator3	0 character, for example: 0
24	ingress lostPktBursts4	5 characters, for example: 65535
25	ingress lostPktSingles4	5 characters, for example: 65535
26	ingress codecParams4	This field is applicable only for stream 1.
27	egress lostPktBursts4	5 characters, for example: 65535
28	egress lostPktSingles4	5 characters, for example: 65535

29	egress codecParams4	This field is applicable only for stream 1.
30	transcode indicator4	0 character, for example: 0
31	ingress lostPktBursts5	5 characters, for example: 65535
32	ingress lostPktSingles5	5 characters, for example: 65535
33	ingress codecParams5	This field is applicable only for stream 1.
34	egress lostPktBursts5	5 characters, for example: 65535
35	egress lostPktSingles5	5 characters, for example: 65535
36	egrees codecParams5	This field is applicable only for stream 1.
37	transcode indicator5	0 character, for example: 0
38	ingress lostPktBursts6	5 characters, for example: 65535
39	ingress lostPktSingles6	5 characters, for example: 65535
40	ingress codecParams6	This field is applicable only for stream 1.
41	egress lostPktBursts6	5 characters, for example: 65535
42	egress lostPktSingles6	5 characters, for example: 65535
43	egress codecParams6	This field is applicable only for stream 1.
44	transcode indicator6	0 character, for example: 0



Note

The transcode indicator BOOLEAN field is added to audio stream, where the value 1 indicates `transcoding` and 0 indicates `passthru`.

For information on Ingress and Egress Codec type sub-field variables, see the [table](#) below.

Table 73: Ingress Codec and Egress Codec Type Sub-field Variables

Sub-field	Description
Network Type	<ul style="list-style-type: none"> • C - Circuit Network • P - Packet Network
Codec Type	<ul style="list-style-type: none"> • 0 - PKT_ENCODING_NULL • 1 - PKT_ENCODING_G711 • 2 - PKT_ENCODING_G711_SILENCE_SUPPRESS • 3 - PKT_ENCODING_G723 • 4 - PKT_ENCODING_G729A • 5 - PKT_ENCODING_G729AB • 6 - PKT_ENCODING_FAX_RELAY • 7 - PKT_ENCODING_G723A • 8 - PKT_ENCODING_G726 • 9 - PKT_ENCODING_ILBC • 10 - PKT_ENCODING_ILBCSS • 11 - PKT_ENCODING_G722 • 12 - PKT_ENCODING_G722_SILENCE_SUPPRESS • 13 - PKT_ENCODING_G7221 • 14 - PKT_ENCODING_G7221SS

- 15 - PKT_ENCODING_G728
- 16 - PKT_ENCODING_G728SS
- 17 - PKT_ENCODING_AMR_BW_EFFICIENT
- 18 - PKT_ENCODING_AMR_OCTET_ALIGNED
- 19 - PKT_ENCODING_AMR_CRC
- 20 - PKT_ENCODING_AMR_CRC_INTERLEAVING
- 21 - PKT_ENCODING_AMR_CRC_ROBUST_SORTING
- 22 - PKT_ENCODING_AMR_CRC_INTERLEAVING_ROBUST_SORTING
- 23 - PKT_ENCODING_AMR_INTERLEAVING
- 24 - PKT_ENCODING_AMR_INTERLEAVING_ROBUST_SORTING
- 25 - PKT_ENCODING_AMR_ROBUST_SORTING
- 26 - PKT_ENCODING_AMRWB_BW_EFFICIENT
- 27 - PKT_ENCODING_AMRWB_OCTET_ALIGNED
- 28 - PKT_ENCODING_AMRWB_CRC
- 29 - PKT_ENCODING_AMRWB_CRC_INTERLEAVING
- 30 - PKT_ENCODING_AMRWB_CRC_ROBUST_SORTING
- 31 - PKT_ENCODING_AMRWB_CRC_INTERLEAVING_ROBUST_SORTING
- 32 - PKT_ENCODING_AMRWB_INTERLEAVING
- 33 - PKT_ENCODING_AMRWB_INTERLEAVING_ROBUST_SORTING
- 34 - PKT_ENCODING_AMRWB_ROBUST_SORTING
- 35 - PKT_ENCODING_EVRC (Interleaved/Bundled format)
- 36 - PKT_ENCODING_EVRC0 (Header-free format)
- 37 - PKT_ENCODING_EVRC1 (Compact-bundled format, Half-rate in single rate mode)
- 38 - PKT_ENCODING_EVRC1_FR (Compact-bundled format, Full-rate in single rate mode)
- 39 - PKT_ENCODING_EVRCB (Interleaved/Bundled format)
- 40 - PKT_ENCODING_EVRCB0 (Header-free format)
- 41 - PKT_ENCODING_EVRCB1 (Compact-bundled format, Half-rate in single rate operation)
- 42 - PKT_ENCODING_EVRCB1_FR (Compact-bundled format, Full-Rate in single rate operation)
- 43 - PKT_ENCODING_EFR
- 46 - PKT_ENCODING_G726SS
- 49 - PKT_ENCODING_SILK_8
- 50 - PKT_ENCODING_SILK_12
- 51 - PKT_ENCODING_SILK_16
- 52 - PKT_ENCODING_SILK_24
- 55 - PKT_ENCODING_G7291
- 56 - PKT_ENCODING_BV16
- 57 - PKT_ENCODING_BV32
- 58 - PKT_ENCODING_BV32_FEC
- 59 - PKT_ENCODING_SPEEX_8
- 60 - PKT_ENCODING_SPEEX_16
- 61 - PKT_ENCODING_SPEEX_32
- 62 - PKT_ENCODING_SPEEX_FEC_8
- 63 - PKT_ENCODING_SPEEX_FEC_16
- 64 - PKT_ENCODING_L16_16
- 65 - PKT_ENCODING_ISAC
- 69 - PKT_ENCODING_Opus

Audio
Encoding

When audio encoding is iLBC

- 0 - ILBC_CODING_RATE_13P3_KBPS
- 1 - ILBC_CODING_RATE_15P2_KBPS

When the audio encoding is G.722

- 0 - CPC_G722_CODING_RATE_48_KBPS
- 1 - CPC_G722_CODING_RATE_56_KBPS
- 2 - CPC_G722_CODING_RATE_64_KBPS

When audio encoding is G.722.1

- 0 - CPC_G7221_CODING_RATE_24_KBPS
- 1 - CPC_G7221_CODING_RATE_32_KBPS
- 2 - CPC_G7221_CODING_RATE_16_KBPS

When audio encoding is either G.723.1 or G.723.1A

- 0 - G723_CODING_RATE_5P3_KBPS
- 1 - G723_CODING_RATE_6P3_KBPS

When the audio encoding is AMR

- 0 - CPC_AMR_CODING_RATE_4P75_KBPS
- 1 - CPC_AMR_CODING_RATE_5P15_KBPS
- 2 - CPC_AMR_CODING_RATE_5P9_KBPS
- 3 - CPC_AMR_CODING_RATE_6P7_KBPS
- 4 - CPC_AMR_CODING_RATE_7P4_KBPS
- 5 - CPC_AMR_CODING_RATE_7P95_KBPS
- 6 - CPC_AMR_CODING_RATE_10P2_KBPS
- 7 - CPC_AMR_CODING_RATE_12P2_KBPS

When the audio encoding is AMRWB

- 0 - CPC_AMRWB_CODING_RATE_6P6_KBPS
- 1 - CPC_AMRWB_CODING_RATE_8P85_KBPS
- 2 - CPC_AMRWB_CODING_RATE_12P65_KBPS
- 3 - CPC_AMRWB_CODING_RATE_14P25_KBPS
- 4 - CPC_AMRWB_CODING_RATE_15P85_KBPS
- 5 - CPC_AMRWB_CODING_RATE_18P25_KBPS
- 6 - CPC_AMRWB_CODING_RATE_19P85_KBPS
- 7 - CPC_AMRWB_CODING_RATE_23P05_KBPS
- 8 - CPC_AMRWB_CODING_RATE_23P85_KBPS

When the audio encoding is EVRC or EVRCB0

- 0 - CPC_EVRCB_OP_POINT_0 (9.3 kbps)
- 1 - CPC_EVRCB_OP_POINT_1 (8.5 kbps)
- 2 - CPC_EVRCB_OP_POINT_2 (7.5 kbps)
- 3 - CPC_EVRCB_OP_POINT_3 (7.0 kbps)
- 4 - CPC_EVRCB_OP_POINT_4 (6.6 kbps)
- 5 - CPC_EVRCB_OP_POINT_5 (6.2 kbps)
- 6 - CPC_EVRCB_OP_POINT_6 (5.8 kbps)
- 7 - CPC_EVRCB_OP_POINT_7 (4.8 kbps)

NOTE: For OPUS and T38 audio encodings, the modeset value negotiated in offer/answer is logged in the CDR as a decimal value.

Ingress Zone Name

This field provides the name of the Ingress zone.

Egress Zone Name

This field provides the name of the Egress zone.

Ingress Zone Id

This field provides the ID of the Ingress zone.

Egress Zone Id

This field provides the ID of the Egress zone.

Video Cac

The media type (Video) and CAC level (TG/zone/Shared...) of a video stream that pruned because the configured video threshold limit is reached is included as a new CAM field called "Video Cac". This field includes the media type (video) and the CAC level (TG, ZN, SH, EP....). This CAM field includes the following values, as applicable, when the video threshold level is reached:

- ZN-Video
- SH-Video
- TG-Video
- EP-Video

Ingress IP Prefix Found TG Name

The CDR includes "Ingress Trunk Group Name" field for both the ingress IPTG found with prefix match and the IPTG determined based on the SIP Message Manipulation (SMM). If SMM is not used to determine the ingress IPTG, the relevant CDR field is empty.

- If the ingress Trunk Group is configured using SMM and applied for a call:
Ingress Trunk Group Name: TG Name configured using SMM
Ingress IP Prefix Found TG Name: IPTG found with prefix match
- If the ingress Trunk Group is not configured using SMM or not applied for a call:
Ingress Trunk Group Name: IPTG found with prefix match
Ingress IP Prefix Found TG Name: empty

Transcode Resource Type

This field indicates the type of transcoder (Media Resource Function (MRF) or a TSBC) used for the call.

MRF Information

This field Stores MRF related information.

This field contains two sub-fields:

- Signaling IP
- Signaling PORT

Figure 8: Accounting Record Summary

ASCII Accounting						
Sub-field Name	Max Length in characters	Type	START	STOP	ATTEMPT	INTERMEDIATE
Signaling IP	39	IPV4/IPV6 IP address	N/A	264.1	N/A	N/A
Signaling PORT	5	Port	N/A	264.2	N/A	N/A

Forking Call Parent GCID

This field binds all the forked calls initiated by one incoming call.

Call Recorder 1 RTP Tx Ip address

First Forking recorder Tx IP Address.

Call Recorder 1 RTP Tx Port Number

First Forking recorder Tx port number.

Call Recorder 1 RTP Rx IP address

First Forking recorder Rx IP Address.

Call Recorder 1 RTP Rx Port Number

First Forking recorder Rx Port Number.

Call Recorder 2 RTP Tx Ip address

Second Forking recorder Tx IP Address.

Call Recorder 2 RTP Tx Port Number

Second Forking recorder Tx port number.

Call Recorder 2 RTP Rx IP address

Second Forking recorder Rx IP Address.

Call Recorder 2 RTP Rx Port Number

Second Forking recorder Rx port number.

Call Recorder 3 RTP Tx Ip address

Third Forking recorder Tx IP Address.

Call Recorder 3 RTP Tx Port Number

Third Forking recorder Tx port number.

Call Recorder 3 RTP Rx IP address

Third Forking recorder Rx IP Address.

Call Recorder 3 RTP Rx Port Number

Third Forking recorder Rx port number.

Note

The fields corresponding to Call Recorder 2 and Call Recorder 3 are supported in future release.

SO-SBC

This field is added to the CAM records to indicate that the call was in a SO-SBC mode.

The SO-SBC field is a string field indicating the used signaling mode (global, onAnswer, onPolicyRsp....). The default is signaling only not set and this field will be empty.

Note

Currently, only the global mode is supported.

The following are the proposed string values:

- SO-g - indicates signaling only on global mode.
- SO-p - indicates signaling only on policy response.
- SO-a - indicates signaling only on answer.

Audio Stream Statistics

The following table lists the attributes for audio stream statistics:

Table 74: Audio Stream Statistics

Name	[STO: 279]	Length
Entries per stream	[sf: 1]	1 character, for example: 2
Number of streams	[sf: 2]	2 characters, for example: 01
ingress mosCq1	[sf: 3]	3, for example 4.1
egress mosCq1	[sf: 4]	3, for example 4.1

Audio Stream RTCP-XR Voice Metric Statistics

The following table lists the attributes for audio stream RTCP-XR voice metric statistics:

Table 75: Audio Stream RTCP-XR Voice Metric Statistics

Name	[STO: 280]	Length
Entries per stream	[sf: 1]	2 characters, for example: 32
Number of streams	[sf: 2]	2 characters, for example: 01
ingress pktLossRate1	[sf: 3]	3
ingress pktDiscardRate1	[sf: 4]	3
ingress pktBurstDensity1	[sf: 5]	3
ingress pktGapDensity1	[sf: 6]	3
ingress pktBurstDuration1	[sf: 7]	5
ingress pktGapDuration1	[sf: 8]	5
ingress roundTripTime1	[sf: 9]	5
ingress endSystemDelay1	[sf: 10]	5
ingress gapMinThreshold1	[sf: 11]	3
ingress jitterBufferAdaptive1	[sf: 12]	1
ingress jitterBufferRate1	[sf: 13]	2
ingress jitterNominalDelay1	[sf: 14]	5
ingress jitterMaxDelay1	[sf: 15]	5
ingress jitterAbsMaxDelay1	[sf: 16]	5
ingress rFactor1	[sf: 17]	3
ingress mosCq1	[sf: 18]	3
egress pktLossRate1	[sf: 19]	3
egress pktDiscardRate1	[sf: 20]	3
egress pktBurstDensity1	[sf: 21]	3
egress pktGapDensity1	[sf: 22]	3
egress pktBurstDuration1	[sf: 23]	5
egress pktGapDuration1	[sf: 24]	5
egress roundTripTime1	[sf: 25]	5
egress endSystemDelay1	[sf: 26]	5

egress gapMinThreshold1	[sf: 27]	3
egress jitterBufferAdaptive1	[sf: 28]	1
egress jitterBufferRate1	[sf: 29]	2
egress jitterNominalDelay1	[sf: 30]	5
egress jitterMaxDelay1	[sf: 31]	5
egress jitterAbsMaxDelay1	[sf: 32]	5
egress rFactor1	[sf: 33]	3
egress mosCq1	[sf: 34]	3

Media Stream SRTP Statistics

The following table lists the attributes for media stream SRTP statistics:

Table 76: Media Stream SRTP Statistics

Name	[STO: 281]	Length
Entries per stream	[sf: 1]	2 characters, for example: 4
Number of streams	[sf: 2]	2 characters, for example: 06
ingress authFailureCount1	[sf: 3]	5
ingress outsideReplayCount1	[sf: 4]	5
egress authFailureCount1	[sf: 5]	5
egress outsideReplayCount1	[sf: 6]	5
ingress authFailureCount2	[sf: 7]	5
ingress outsideReplayCount2	[sf: 8]	5
egress authFailureCount2	[sf: 9]	5
egress outsideReplayCount2	[sf: 10]	5
ingress authFailureCount3	[sf: 11]	5
ingress outsideReplayCount3	[sf: 12]	5
egress authFailureCount3	[sf: 13]	5
egress outsideReplayCount3	[sf: 14]	5
ingress authFailureCount4	[sf: 15]	5
ingress outsideReplayCount4	[sf: 16]	5
egress authFailureCount4	[sf: 17]	5
egress outsideReplayCount4	[sf: 18]	5
ingress authFailureCount5	[sf: 19]	5

ingress outsideReplayCount5	[sf: 20]	5
egress authFailureCount5	[sf: 21]	5
egress outsideReplayCount5	[sf: 22]	5
ingress authFailureCount6	[sf: 23]	5
ingress outsideReplayCount6	[sf: 24]	5
egress authFailureCount6	[sf: 25]	5
egress outsideReplayCount6	[sf: 26]	5

DSP insertion/rejection reason

Indicates the reason for a DSP resource's inclusion in a media flow, or for its rejection upon request.

The reason include the following:

- Transcoding
- Transrating
- DTMF
- SilenceSuppression
- Rejected codec not configured
- Rejected codec unavailable
- Rejected codec unlicensed
- Rejected unrelated to DSP
- No DSP inserted

DSP insertion/rejection reason is present in both the STOP record and ATTEMPT record.

Table 77: DSP insertion/rejection reason STOP Record

Name	[STO: 282]	Length
Entries per stream	[sf: 1]	1 character, for example: 2
Number of streams	[sf: 2]	2 characters, for example: 01
ingress dspReason1	[sf: 3]	40, for example string "Rejected codec not configured"
egress dspReason1	[sf: 4]	40, for example string "Rejected codec not configured"

Table 78: DSP insertion/rejection reason ATTEMPT Record

Name	[ATT: 205]	Length
Entries per stream	[sf: 1]	1 character, for example: 2
Number of streams	[sf: 2]	2 characters, for example: 01
ingress dspReason1	[sf: 3]	40, for example string "Rejected codec not configured"
egress dspReason1	[sf: 4]	40, for example string "Rejected codec not configured"

