Understand Voice Router Internal Call Disconnect Cause Code Table

Contents

Introduction

This document describes the well-known Q.850 cause code values.

Prerequisites

Requirements

There are no specific requirements for this document, however, knowledge of SIP and H.323 is preferred.

Components Used

This document is not restricted to specific software and hardware versions.

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

Background Information

Each Session Initiation Protocol (SIP) and H.323 standard cause code accurately reflect the nature of the associated internal failure. This capability makes the H.323 and SIP call-control protocols consistent with cause codes that are generated for common problems. For each of the failures listed, the standard category is associated with a standard category description, the Q.850 cause code value, and a description of this value.

Internal Cause Code Table

Standard Category	Standard Category Description	Q.850 Cause Code	Q.850 Release Cause Description
Unallocated	The typical scenarios	1	Indicates that the destination requested by the calling party

(unassigned) number	include situations where the number is not present in the routing table, or when there is no available path through the ISDN network.		cannot be reached because the number is unassigned.
No route to a specified transit network (national use)	Typical scenarios include: • A wrong transit network code was dialed. • The transit network does not serve this equipment. • The transit network does not exist	2	Indicates that the gateway is asked to route the call through an unrecognized intermediate network.
Destination address resolution failure	Typical scenarios include: • Domain Name System (DNS) • Invalid session target in configuration	3	CC_CAUSE_NO_ROUTE Indicates that the called party cannot be reached because the network that the call has been routed through does not serve the desired destination.
Send special information tone	The typical scenario includes the dialed number that has a special condition applied to it.	4	Indicates that the called party cannot be reached for reasons that are of a long-term nature and that the special information tone must be returned to the calling party.
Misdialed trunk prefix (national use)	The typical scenario includes the wrong trunk prefix was dialed.	5	Indicates the erroneous inclusion of a trunk prefix in a called party number.
Channel Unacceptable	The typical scenario is failed channel on the network.	6	Indicates that the channel most recently identified is not acceptable to the sending entity for use in this call.

Call awarded and delivered in an established channel	The typical scenario is a successful call.	7	Indicates that the called party has been awarded the incoming call and that the incoming call is connected to a channel already established with that called party for similar calls.
Preemption	The typical scenario is for emergency services.	8	Indicates the call is preempted.
Preemption; Circuit reserved for reuse	The typical scenario is for emergency services.	9	Indicates the call is preempted and the circuit is reserved for reuse by a preempting exchange.
Normal call clearing	The typical scenario is a call participant hung up.	16	Indicates that the call was cleared because one of the parties involved with the call has requested that the call be cleared.
User busy	The typical scenario is the user is already on the telephone.	17	Indicates that the called party is unable to accept another call because the busy condition of the user has been encountered. This cause value can be generated by the called party or by the network. In the case when the called party determined the user is busy, it is noted that the called equipment is compatible with the call.
No user responding	The typical scenario is the user did not answer the telephone.	18	Used when the called party does not respond to a call establishment message with either an alerting or connect indication within the time allotted. The number that was dialed has an active D-channel, but the far end chooses not to answer.
No answer from the user (user alerted)	The typical scenario is the user did not answer the telephone.	19	Used when the called party has been alerted but does not respond with a connect indication within the time allotted. This cause is not generated by Q.931 procedures but can be generated by internal network timers.
Subscriber Absent	The typical scenario is the user lost network connectivity or is out of range.	20	Used when a mobile station has logged off, radio contact is not obtained with a mobile station, or if a personal telecommunication party is temporarily not addressable at any network interface.
Call Rejected	The typical scenario is the subscriber has a service constraint that does not accept this call.	21	Indicates that the equipment that sent this cause code does not wish to accept this call, although it can accept the call because the equipment that sent the cause is neither busy nor incompatible.

Can also be generated by the network which indicates that the |

			call was cleared because of a supplementary service constraint. The diagnostic field can contain additional information about the supplementary service and the reason for rejection.
Number Changed	The typical scenario is a subscriber has changed their number.	22	Returned to a calling party when the called number indicated by the calling party is no longer assigned. The new called party number can be optionally included in this diagnostic field.
Redirection to a new destination	The typical scenario is the call is forwarded.	23	Used by a general ISUP protocol mechanism that decides that the call must be sent to a different called number.
Exchange routing error	The typical scenario is the network is overloaded.	25	Indicates that the destination indicated by the calling party cannot be reached because an intermediate exchange has released the call because it reached a limit in the execution of the hop counter procedure.
Nonselected user clearing	The typical scenario is a called number failure.	26	Indicates that the called number has not been awarded the incoming call.
Socket failure	Typical scenarios include: • Transmission Control Protocol (TCP) socket connection failure. • Problem sending an H.323 SETUP. • Problem sending a SIP INVITE. • Send or receive error occurs on the connected socket.	27	CC_CAUSE_DESTINATION_OUT_OF_ORDER Indicates that the destination indicated by the originator cannot be reached because the interface of the destination does not function correctly. The signaling message cannot be delivered to the remote party.
Invalid number format	The typical scenario is the caller is calling with the use of a	28	Indicates that the called party cannot be reached because the called party number is not in a valid format or is not complete.

	network-type number (enterprise) rather instead of an Unknown or National.		
Facility rejected	The typical scenario is a network service is not in function.	29	Indicates that a supplementary service requested by the originator cannot be provided by the network.
Response to STATUS ENQUIRY	The typical scenario is a STATUS message is returned.	30	Included in the STATUS message when the reason for the STATUS message was the prior receipt of a STATUS ENQUIRY message.
Normal, Unspecified	The typical scenario is a normal Operation.	31	Reports a normal event only when no other cause in the normal class applies.
No circuit/channel available	The typical scenario is no B-channels are available to make the selected call.	34	Indicates that there is no appropriate circuit or channel presently available to handle the call.
Network out of order	The typical scenario is a network failure.	38	Indicates that the network does not function correctly and that the condition is likely to last for an extended period.
The permanent frame mode connection is out of service	The typical scenario is equipment or section failure.	39	Included in a STATUS message to indicate that a permanently established frame mode connection is out of service.
The permanent frame mode connection is operational	The typical scenario is normal operation.	40	Included in a STATUS message to indicate that a permanently established frame mode connection is operational and capable to carry call information.
Temporary failure	The typical scenario is a network failure.	41	Indicates that the network does not function correctly and that the condition is likely to be resolved quickly.
Switching equipment congestion	The typical scenario is high traffic.	42	Indicates that the switching equipment that generates this cause experiences high traffic.
Access	The typical scenario	43	Indicates that the network was not able to deliver access

information discarded	is usually reported when the far-end ISDN switch removes some piece of information before tandem-switching a call.		information to the called party as requested.
The requested circuit/channel is not available	The typical scenario occurs during glare conditions when both sides are selected top-down or bottom-up. Change the Allocation Direction so that one end is top-down and the other is bottom-up.	44	Returned when the circuit or channel indicated by the requested entity cannot be provided by the other side of the interface.
Precedence call blocked	The typical scenario is a caller that is busy and the priority level of active call is equal to or higher than the incoming call.	46	Indicates that there are no preemptive circuits or that the called party is busy with a call of equal or higher preemptable level.
Internal resource allocation failure	Typical scenarios include: • Out of memory • Internal access to the TCP socket is unavailable	47	CC_CAUSE_NO_RESOURCE Indicates a resource unavailable event.
QoS Error	The typical scenario is a Quality of Service (QoS) error.	49	CC_CAUSE_QOS_UNAVAILABLE Indicates that the requested QoS cannot be provided.
The requested facility is not subscribed	The typical scenario is the caller tries to use a service that is not permitted.	50	Indicates that the party has requested a supplementary service that it is not authorized to use.

Outgoing calls barred within Closed User Group (CUG)	The typical scenario is a subscriber configuration contains this limitation.	53	Indicates that although the calling party is a member of a CUG for the outgoing CUG call, outgoing calls are not allowed for this member of the CUG.
Incoming calls barred within Closed User Group (CUG)	The typical scenario is the subscriber configuration contains this limitation.	55	Indicates that although the called party is a member of a CUG for the incoming CUG call, incoming calls are not allowed for this member of the CUG.
Bearer capability not authorized	The typical scenario is the caller is not authorized to use the bearer capability.	57	Indicates that the party has requested a bearer capability which is implemented on the equipment but is not authorized to be used.
Bearer capability not presently available	The typical scenario is a call is placed with a bearer capacity that the service provider does not have the capacity to supply.	58	Indicates that the party has requested a bearer capability which is implemented by the equipment and is currently unavailable.
Inconsistency in designated outgoing access information and subscriber class	The typical scenario is a network error.	62	Indicates that there is an inconsistency in the designated outgoing access information and subscriber class.
Service or option not available, unspecified	The typical scenario is the service is not available.	63	Reports a service or option not available event only when no other cause in the service or the option not available class applies.
Media Negotiation Failure	Typical scenarios include: • No codec match occurred. • H323 or H245 problem that leads to failure in media negotiation.	65	CC_CAUSE_BEARER_CAPABILITY_NOT_IMPLEMENTED Indicates that the equipment that sent this cause does not support the bearer capability requested.

Channel type not implemented	The typical scenario is channel type match is not found.	66	Indicates that the equipment that sent this cause does not support the channel type requested.
The requested facility is not implemented	The typical scenario is service type match is not found.	69	Indicates that the equipment that sent this cause does not support the requested supplementary service.
Only restricted digital information bearer capability is available (national use)	The typical scenario is a routing error.	70	Indicates that the calling party has requested an unrestricted bearer service but that the equipment that sent this cause only supports the restricted version of the requested bearer capacity.
Service or option not implemented, unspecified	The typical scenario is a service is not implemented.	79	Reports a service or option not implemented event only when no other cause in the service or option not implemented class applies.
Invalid call reference value	The typical scenario is the far-end switch did not recognize the call reference for a message sent by the gateway.	81	Indicates that the equipment that sent the cause has received a message with a call reference that is not currently in use on the user-network interface.
The identified channel does not exist	The typical scenario is a fractional PRI error.	82	Indicates a call was attempted on a channel that is not configured.
A suspended call exists, but this call identity does not	The typical scenario is a call ID mismatch.	83	Indicates a call resume has been attempted with a call identity that differs from that in use for any presently suspended calls.
Call identity in use	The typical scenario is equipment error.	84	Indicates that the network has received a call suspended request that contains a call identity that is already in use for a suspended call.
No call suspended	The typical scenario is equipment error.		Indicates that the network has received a call resume request that contains a call identity information element that does not indicate any suspended call.
The call that has	Typical scenarios	86	Indicates that the network has received a call identity

the requested call identity has been cleared	include: • Network timeout • The call is cleared by a remote user • SIP UAC sends a request to UAS with no response		information element that indicates a suspended call that has in the meantime been cleared wile suspended.
The user is not a member of Closed User Group (CUG)	The typical scenario is the caller is not authorized.	87	Indicates that the called user for the incoming CUG call is not a member of the specified CUG.
Incompatible destination	Typical scenarios include: • The number dialed is not capable of this type of call. • The caller is calling a restricted line in unrestricted mode. • The caller is calling a POTS phone with the use of an unrestricted mode.	88	Indicates that the equipment that sent this cause has received a request to establish a call that has compatibility attributes that cannot be accommodated.
Nonexistent Closed User Group (CUG)	The typical scenario is a configuration or dialing error.	90	Indicates that the specified CUG does not exist.
Invalid transit network selection (national use)	Typical scenarios include: • Network error • Identification mismatch	91	Indicates that a transit network identification was received which is of an incorrect format.

Invalid message error received	The typical scenario is an invalid message was received.	95	CC_CAUSE_INVALID_MESSAGE Indicates an invalid message event.
Mandatory IE missing error	Typical scenarios include: • Mandatory Contact field missing in the SIP message. • The Session Description Protocol (SDP) body is missing.	96	CC_CAUSE_MANDATORY_IE_ MISSING Indicates that the equipment that sent this cause code has received a message that is missing an information element (IE). This IE must be present in the message before the message can be processed.
Message type nonexistent or not implemented	The typical scenario is that message-type information is missing.	97	Indicates that the equipment that sent this cause has received a message which is missing an information element that must be present in the message before the message can be processed.
Message not compatible with call state or message type nonexistent or not implemented	Typical scenarios include: • ISDN protocol mismatch • ISDN state machine violation	98	Indicates that the equipment that sent this cause has received a message such that the procedures do not indicate that this is a permissible message to receive while in this call state.
An information element or parameter does not exist or is not implemented	The typical scenario is an element mismatch.	99	Indicates that the equipment that sent this cause has received a message which includes information elements or parameters not recognized because the information element or parameter names are not defined or are defined but not implemented by the equipment.
Invalid IE contents error	The typical scenario is a SIP contact field is present, but the format is bad.	100	CC_CAUSE_INVALID_IE_ CONTENTS Indicates that the equipment that sent this cause code has received an IE that it has implemented. However, the equipment that sent this cause code has not implemented one or more of the specific fields.
Message in the invalid call state	The typical scenario is an unexpected message was	101	CC_CAUSE_MESSAGE_IN_INCOMP_CALL_STATE Indicates that a message has been received that is incompatible

	received that is incompatible with the call state.		with the call state.
Call setup timeout failure	Typical scenarios include: • No H.323 call proceeding • No H.323 alerting or connect message was received from the terminating gateway • SIP Invite expires timer reached the maximum number of retries allowed	102	CC_CAUSE_RECOVERY_ON_ TIMER_EXPIRY Indicates that a procedure has been initiated by the expiration of a timer in association with procedures that handle errors.
Parameter nonexistent or not implemented passed on (national use)	The typical scenario is a configuration mismatch.	103	Indicates that the equipment that sent this cause has received a message which includes parameters not recognized because the parameters are not defined or are defined but not implemented on the equipment.
A message with an unrecognized parameter discarded	The typical scenario is an unrecognized parameter.	110	Indicates that the equipment that sent this cause has discarded a received message which includes a parameter that is not recognized.
Protocol error, unspecified	The typical scenario is a protocol error.	111	Reports a protocol error event only when no other cause in the protocol error class applies.
Internal error	The typical scenario is a device failed to send a message to Public Switched Telephone Network (PSTN).	127	CC_CAUSE_INTERWORKING Indicates that there has been interworking with a network that does not provide causes for actions it takes. The exact cause cannot be ascertained.