

ISDN Cause Definitions

Handout

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1 Cause definitions

The European Telecommunication Standard (ETS) defines the causes as follows (ETS 300 102-1, 1990:165ff).

1.1 Normal Class

- ◆ **Cause #1 "unallocated (unassigned) number"**
This cause indicates that the destination requested by the calling user cannot be reached because, although the number is in a valid format, it is not currently assigned (allocated).
- ◆ **Cause #2 "no route to specifies transit network"**
This cause indicates that the equipment sending this cause has received a request to route the call through a particular transit network which it does not recognise. The equipment sending this cause does not recognise the transit network either because the transit network does not exist or because that particular transit network, while it does exist, does not service the equipment which is sending this cause. This cause is supported on a network-dependent basis.
- ◆ **Cause #3 "no route to destination"**
This cause indicates that the called user cannot be reached because the network through which the call has been routed does not serve the destination desired. This cause is supported on a network-dependent basis.
- ◆ **Cause #6 "channel unacceptable"**
This cause indicates the channel most recently identified is not acceptable to the sending entity for use in this call.
- ◆ **Cause #7 "call awarded and being delivered in an established channel"**
This cause indicates that the user has been awarded the incoming call, and that the incoming call is being connected to a channel already established to that user for similar calls (e.g. packet-mode X.25 virtual calls).
- ◆ **Cause #16 "normal call clearing"**
This cause indicates that the call is being cleared because one of the users involved in the call has requested that the call be cleared. Under normal situations, the source of this cause is not the network.
- ◆ **Cause #17 "user busy"**
This cause is used when the called user has indicated the inability to accept another call. It is noted that the user equipment is compatible with the call.
- ◆ **Cause #18 "no user responding"**
This cause is used when a user does not respond to a call establishment message with either an alerting or connect indication within the prescribed period of time allocated (defined in ETS 300 102-1 by the expiry of either timer T303 or T310).
- ◆ **Cause #19 "no answer from user (user alerted)"**
This cause is used when a user has provided an alerting indication but has not provided a connect indication within a prescribed period of time. NOTE: This cause is not necessarily generated by ETS 300 102-1 procedures but may be generated by internal network timers.
- ◆ **Cause #21 "call rejected"**

This cause indicates that the equipment sending this cause does not wish to accept this call, although it could have accepted the call because the equipment sending this cause is neither busy nor incompatible.

- ◆ **Cause #22 "number changed"**
This cause is returned to a calling user when the called party number indicated by the calling user is no longer assigned. The new called party number may optionally be included in the diagnostic field. If a network does not support this capability, cause #1 "unallocated (unassigned) number" shall be used.
- ◆ **Cause #26 "non-selected user clearing"**
This cause indicates that the user has not been awarded the incoming call.
- ◆ **Cause #27 "destination out of order"**
This cause indicates that the destination indicated by the user cannot be reached because the interface to the destination is not functioning correctly. The term "not functioning correctly" indicates that a signalling message was unable to be delivered to the remote user; e.g. a physical layer or data link layer failure at the remote user, user equipment off-line, etc.
- ◆ **Cause #28 "invalid format (address incomplete)"**
This cause indicates that the called user cannot be reached because the called party number is not in a valid format or is not complete.
- ◆ **Cause #29 "facility rejected"**
This cause is returned when a facility requested by the user cannot be provided by the network.
- ◆ **Cause #30 "response to status enquiry"**
This cause is included in the STATUS message when the reason for generating the STATUS message was the prior receipt of a STATUS ENQUIRY message.
- ◆ **Cause #31 "normal, unspecified"**
This cause is used to report a normal event only when no other cause in the normal class applies.

1.2 Resource unavailable class

- ◆ **Cause #34 "no circuit/channel available"**
This cause indicates that there is no appropriate circuit/channel presently available to handle the call.
- ◆ **Cause #38 "network out of order"**
This cause indicates that the network is not functioning correctly and that the condition is likely to last a relatively long period of time; e.g. immediately re-attempting the call is not likely to be successful.
- ◆ **Cause #41 "temporary failure"**
This cause indicates that the network is not functioning correctly and that the condition is not likely to last a long period of time; e.g. the user may wish to try another call attempt almost immediately.
- ◆ **Cause #42 "switching equipment congestion"**
This cause indicates that the switching equipment generating this cause is experiencing a period of high traffic.
- ◆ **Cause #43 "access information discarded"**
This cause indicates that the network could not deliver access information to

the remote user as requested; i.e. a user-to-user information, low layer compatibility, high layer compatibility, or subaddress as indicated in the diagnostic. It is noted that the particular type of access information discarded is optionally included in the diagnostic.

- ◆ **Cause #44 "requested circuit/channel not available"**
This cause is returned when the circuit or channel indicated by the requesting entity cannot be provided by the other side of the interface.
- ◆ **Cause #47 "resource unavailable, unspecified"**
This cause is used to report a resource unavailable event only when no other cause in the resource unavailable class applies.

1.3 Service or option not available class

- ◆ **Cause #49 "quality of service not available"**
This cause is used to report that the requested quality of service, as defined in CCITT Recommendation X.213, cannot be provided, (e.g. throughput or transit delay cannot be supported).
- ◆ **Cause #50 "requested facility not subscribed"**
This cause indicates that the requested supplementary service could not be provided by the network because the user has not completed the necessary administrative arrangements with its supporting network.
- ◆ **Cause #57 "bearer capability not authorised"**
This cause indicates that the user has requested a bearer capability which is implemented by the equipment which generated this cause but the user is not authorised to use.
- ◆ **Cause #58 "bearer capability not presently available"**
This cause indicates that the user has requested a bearer capability which is implemented by the equipment which generated this cause but which is not available at this time.
- ◆ **Cause #63 "service or option not available "unspecified"**
This cause is used to report a service or option not available event only when no other cause in the service or option not available class applies.

1.4 Service or option not implemented class

- ◆ **Cause #65 "bearer capability not implemented"**
This cause indicates that the equipment sending this cause does not support the bearer capability requested.
- ◆ **Cause #66 "channel type not implemented"**
This cause indicates that the equipment sending this cause does not support the channel type requested.
- ◆ **Cause #69 "requested facility not implemented"**
This cause indicates that the equipment sending this cause does not support the requested supplementary service.
- ◆ **Cause #70 "only restricted digital information bearer capability is available"**
This cause indicates that one equipment has requested an unrestricted bearer service but that the equipment sending this cause only supports the restricted version of the requested bearer capability.
- ◆ **Cause #79 "service or option not implemented, unspecified"**

This cause is used to report a service or option not implemented event only when no other cause in the service or option not implemented class applies.

1.5 Invalid message (e.g. parameter out of range) class

- ◆ **Cause #81 "invalid call reference value"**
This cause indicates that the equipment sending this cause has received a message with a call reference which is not currently in use on the user-network interface.
- ◆ **Cause #82 "identified channel does not exist"**
This cause indicates that the equipment sending this cause has received a request to use a channel not activated on the interface for a call. For example, if a user has subscribed to those channels on a primary rate interface numbered from 1 to 12 and the user equipment or the network attempts to use channels 13 through 23, this cause is generated.
- ◆ **Cause #83 "a suspended call exists, but this call identity does not"**
This cause indicates that a call resume has been attempted with a call identity which differs from that in use for any presently suspended call(s).
- ◆ **Cause #84 "call identity in use"**
This cause indicates that the network has received a call suspend request. The call suspend request contained a call identity (including the null call identity) which is already in use for a suspended call within the domain of interfaces over which the call might be resumed.
- ◆ **Cause #85 "no call suspended"**
This cause indicates that the network has received a call resume request. The call resume request contained a Call identity information element which presently does not indicate any suspended call within the domain of interfaces over which calls may be resumed.
- ◆ **Cause #86 "call having the requested call identity has been cleared"**
This cause indicates that the network has received a call resume request. The call resume request contained a Call identity information element which once indicated a suspended call; however, that suspended call was cleared while suspended (either by network timeout or by the remote user).
- ◆ **Cause #88 "incompatible destination"**
This cause indicates that the equipment sending this cause has received a request to establish a call which has low layer compatibility, high layer compatibility, or other compatibility attributes (e.g. data rate) which cannot be accommodated.
- ◆ **Cause #91 "invalid transit network selection"**
This cause indicates that a transit network identification was received which is of an incorrect format as defined in Annex C.
- ◆ **Cause #95 "invalid message, unspecified"**
This cause is used to report an invalid message event only when no other cause in the invalid message class applies.

1.6 Protocol error (e.g. unknown message) class

- ◆ **Cause #96 "mandatory information element is missing"**
This cause indicates that the equipment sending this cause has received a message which is missing an information element which must be present in the message before that message can be processed.
- ◆ **Cause #97 "message type non-existent or not implemented"**
This cause indicates that the equipment sending this cause has received a message with a message type it does not recognise either because this is a message not defined or defined but not implemented by the equipment sending this cause.
- ◆ **Cause #98 "message not compatible with call state or messages TYPE NON-EXISTENT OR NOT IMPLEMENTED"**
This cause indicates that the equipment sending this cause has received a message such that the procedures do not indicate that this is a permissible message to receive while in the call state, or a STATUS message was received indicating an incompatible call state.
- ◆ **Cause #99 "information element non-existent or not implemented"**
This cause indicates that the equipment sending this cause has received a message which includes information elements not recognised because the information element identifier is not defined or it is defined but not implemented by the equipment sending the cause. However, the information element is not required to be present in the message in order for the equipment sending the cause to process the message.
- ◆ **Cause #100 "invalid information element contents"**
This cause indicates that the equipment sending this cause has received an information element which it has implemented; however, one or more of the fields in the information element are coded in such a way which has not been implemented by the equipment sending this cause.
- ◆ **Cause #101 "message not compatible with call start"**
This cause indicates that a message has been received which is incompatible with the call state.
- ◆ **Cause #102 "recovery on timer expiry"**
This cause indicates that a procedure has been initiated by the expiry of a timer in association with ETS 300 102-1 error handling procedures.
- ◆ **Cause #111 "protocol error, unspecified"**
This cause is used to report a protocol error event only when no other cause in the protocol error class applies.

1.7 Interworking class

- ◆ **Cause #127 "interworking, unspecified"**
This cause indicates that there has been interworking with a network which does not provide causes for actions it takes; thus, the precise cause for a message which is being sent cannot be ascertained.

2 Location

The European Telecommunication Standard (ETS) defines the causes as follows (ETS 300 102-1, 1990:66).

Code (hex)	Location
0	User
1	Private network serving location user
2	Public network serving local user
3	Transit network
4	Public network serving remote user
5	Remote private network
7	International network
A	Network beyond interworking point

3 Reference list

ETS 300 102-1 (1990): Integrated Services Digital Network (ISDN); User network interface layer 3 : Specifications for basic call control

4 Imprint

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