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Infrastructure of audiovisual services – Communication procedures

Gateway control protocol: Error code and service change reason description

Recommendation ITU-T H.248.8

ITU-T H-SERIES RECOMMENDATIONS

AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Recommendation ITU-T H.248.8

Gateway control protocol: Error code and service change reason description

Summary

Recommendation ITU-T H.248.8 defines the service change reasons that are used in the core ITU-T H.248.1 protocol. It lists the service change reason code associated with the service change reason code name. It provides a definition of when the service change reason is to be used. It also provides an indication of what text may be included in the service change extension to allow further interpretation of the service change reason. Clause 5 provides these details.

This revision addresses the following aspects:

- Addition of new error codes: 507
- Modification of error code: 511

NOTE – This Recommendation has been renamed. It was formerly known as Annex L to Rec. ITU–T H.248.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.248 Annex L	2001-07-29	16
2.0	ITU-T H.248.8	2002-03-29	16
2.1	ITU-T H.248.8 (2002) Amd. 1	2004-03-15	16
3.0	ITU-T H.248.8	2005-09-13	16
4.0	ITU-T H.248.8	2007-08-29	16
5.0	ITU-T H.248.8	2013-03-16	16

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

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Recommendation ITU-T H.248.8

Gateway control protocol: Error code and service change reason description

1   Scope

This Recommendation defines the error codes that are used in the core ITU-T H.248.1 protocol. It lists the error code number associated with the error code name. It then provides a definition of when the error code is to be used and if the error code is defined in a package. It also provides an indication of what text may be included in the error text descriptor to allow further interpretation of the error code. Clause 4.2 provides these details. The normal actions for failed transactions and commands apply as specified in clause 8 of [ITU-T H.248.1]. Packages may define error codes not documented in this Recommendation. The IANA registry should be consulted for the complete list of error codes.

Error codes marked as "not used" are historical in nature and are for informational purposes only. These error codes should not be used.

This Recommendation also defines the service change reasons that are used in the core ITU-T H.248.1 protocol. It lists the service change reason code associated with the service change reason code name. It provides a definition of when the service change reason is to be used. It also provides an indication of what text may be included in the service change extension to allow further interpretation of the service change reason. Clause 5.2 provides these details.

2   References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T H.248.1]   Recommendation ITU-T H.248.1 (2013), *Gateway control protocol: Version 3*.

3   Definitions

See [ITU-T H.248.1].

4   Error codes

4.1   Assigning error codes

The following considerations SHALL be met to register an error code with IANA:

1)   An error number and a one-line (80 characters maximum) string are registered for each error.

2)   A complete description of the conditions under which the error is detected shall be included in a publicly available document. The description shall be sufficiently clear to differentiate the error from all other existing error codes.

3)   The document should be available on a public web server and should have a stable URL.

4)   Error numbers registered by recognized standards bodies shall have 3- or 4-character error numbers.

5)   Error numbers registered by all other organizations or individuals shall have 4-character error numbers.

6)   An error number shall not be redefined, nor modified except by the organization or individual that originally defined it, or their successors or assigns.

Parameters included in the error text shall be coded according to the principles as specified in Annex A or Annex B of [ITU-T H.248.1]. If more than one parameter is included they shall be included in the order defined in this Recommendation and separated by a comma.

Error text may be included in the error descriptor, even for those error codes for which no specific error text is defined in this Recommendation. If error text is included it should contain the information defined in the error specification.

NOTE − The actions carried out after an error is discovered, which results in the sending of an error code described in clause 4.2, are specified in clause 8 of [ITU-T H.248.1].

4.2   Error code descriptions

4.2.1   Error code #: 400

Name: Syntax error in message

Definition: The transaction request(s) has been disregarded due to a syntax error detected at the message level. The message does not conform to the productions of messages as per Annex A or Annex B of [ITU-T H.248.1] as applicable. Used when, e.g., no transaction can be parsed.

Error text in the error descriptor: –

Comment: If the error is detected prior to determining a valid transaction ID, no meaningful action can be taken on the receipt of the error message.

4.2.2   Error code #: 401

Name: Protocol error

Definition: The transaction or command request(s) has been disregarded due to a violation of Megaco protocol procedures having been detected.

Error text in the error descriptor: –

Comment: Use more specific error codes (e.g., 505) if possible.

4.2.3   Error code #: 402

Name: Unauthorized

Definition: The command is not executed due to the originator of a command not being authorized to execute that command for the termination(s) affected by it.

Error text in the error descriptor: A string containing the command name is included in the error text in the error descriptor.

Comment: –

4.2.4   Error code #: 403

Name: Syntax error in TransactionRequest

Definition: The transaction request is disregarded since it failed to match production of a TransactionRequest as per Annexes A and B of [ITU-T H.248.1], as applicable. Used when, e.g., it is not possible to determine the end of a transaction, or when no action can be parsed.

Reference: Clause 8.2.2 of [ITU-T H.248.1]

Error text in the error descriptor: –

Comment: If the error is detected prior to determining a valid transaction ID, no meaningful action can be taken on the receipt of the error message.

4.2.5 Error code #: 406

Name: Version not supported

Definition: This indicates a lack of support for the protocol version indicated in the message header of the message, or in the ServiceChangeVersion parameter. In the case of the version number being indicated in the message header, the message contents are disregarded.

Reference: Clauses 11.2 or 11.3 of [ITU-T H.248.1]

Error text in the error descriptor: –

Comment: –

4.2.6 Error code #: 410

Name: Incorrect identifier

Definition: The transaction request(s) has been disregarded due to a syntax error (illegal length or illegal character) having been found in a mId, transactionId, contextId, terminationId, propertyId, eventId, signalId, statisticsId, parameterId or requestID.

Error text in the error descriptor: The concerned ID is included in the error text in the error descriptor.

Comment: If the error is detected prior to determining a valid transaction ID, no meaningful action can be taken on the receipt of the error message.

4.2.7 Error code #: 411

Name: The transaction refers to an unknown ContextID

Definition: The ContextID referred to by an action in the transaction request is unknown and the action is therefore disregarded.

Error text in the error descriptor: –

Comment: –

4.2.8 Error code #: 412

Name: No ContextIDs available

Definition: The MG is unable to create a context in response to an "Add" or "Move" command with CHOOSE given as the ContextId because of a shortage of resources within the MG, and the action is disregarded.

Error text in the error descriptor: –

Comment: –

4.2.9 Error code #: 413

Name: Number of transactions in message exceeds maximum

Definition: The message contains more than the maximum allowed number of transactions. If the error descriptor is returned at a message level, the message has not been executed. If the error descriptor is returned at a transaction level, the transaction has not been executed.

Error text in the error descriptor: –

Comment: The MGC/MG should resend the message with the number of transactions reduced less than or equal to the maximum number.

4.2.10 Error code #: 421

Name: Unknown action or illegal combination of actions

Definition: Not used.

Error text in the error descriptor: –

Comment: –

4.2.11 Error code #: 422

Name: Syntax error in action

Definition: The action was disregarded due to the syntax of the action not conforming to the production of an actionRequest as per Annex A or B of [ITU-T H.248.1], as applicable. Used when it is not possible to determine the end of an action, when, e.g., no command can be parsed.

Reference: Clause 8.2.2 of [ITU-T H.248.1]

Error text in the error descriptor: –

Comment: Examples of errors are spelling errors, missing brackets.

4.2.12 Error code #: 430

Name: Unknown TerminationID

Definition: The TerminationID referred to by the command is unknown and the command is therefore disregarded. The termination ID is not found in the MG. This includes the NULL context. This is generated when the MG does not know which termination the MGC is trying to address.

Error text in the error descriptor: The TerminationID is included in the error text in the error descriptor.

Comment: –

4.2.13 Error code #: 431

Name: No TerminationID matched a wildcard

Definition: The command that included one or more wildcards (ALL or CHOOSE) TerminationID(s) is disregarded since the receiver of the command could not find an existing termination, or create a new termination matching the specified pattern.

Error text in the error descriptor: –

Comment: –

4.2.14 Error code #: 432

Name: Out of TerminationIDs or no TerminationID available

Definition: The add command, including the CHOOSE terminationID, is disregarded. The MG was unable to provide a TerminationID because it has exhausted the available range of TerminationIDs.

Error text in the error descriptor: –

Comment: –

4.2.15   Error code #: 433

Name: TerminationID is already in a context

Definition: A TerminationID specified in an add command already exists within an active context and therefore the command is disregarded.

Error text in the error descriptor: The ContextID is included in the error text in the error descriptor.

Comment: –

4.2.16   Error code #: 434

Name: Max number of terminations in a context exceeded

Definition: The MGC has requested that a termination be added or moved to a context that already contains a maximum number of terminations allowed. The command is therefore disregarded.

Reference: Clauses 6.1 and E.2.1 of [ITU-T H.248.1]

Error text in the error descriptor: –

Comment: –

4.2.17   Error code #: 435

Name: Termination ID is not in specified context

Definition: A specific TerminationID specified in a modify, subtract, AuditValue, AuditCapabilities or ServiceChange command does not exist in a specified context and therefore the command is disregarded. This error occurs when the MGC sends a command with a valid TerminationID that is not in the specified contextID. This is used when the MG has a record of the termination but it is not where the MGC says it is.

Error text in the error descriptor: The ContextID where the termination is located is included in the error text in the error descriptor.

Comment: –

4.2.18   Error code #: 440

Name: Unsupported or unknown package

Definition: The package name in a property, parameter, event, signal or statistic identifier is not supported by the receiver. The command related to the unknown identifier is disregarded.

Error text in the error descriptor: The package name is included in the error text in the error descriptor.

Comment: –

4.2.19   Error code #: 441

Name: Missing remote or local descriptor

Definition: The requested command requires that the remote/local descriptor includes necessary or adequate information and therefore the action is not carried out.

Error text in the error descriptor: –

Comment: The error associated with this code may not be detectable until after the current command or subsequent commands result in failure to process the requested behaviour (e.g., the bearer setup fails).

4.2.20 Error code #: 442

Name: Syntax error in command

Definition: A command request has failed to match the syntax of the commandRequest production and is therefore disregarded. Used when, e.g., end of a command cannot be determined.

Reference: Clause 8.2.2 of [ITU-T H.248.1]

Error text in the error descriptor: –

Comment: –

4.2.21 Error code #: 443

Name: Unsupported or unknown command

Definition: The requested command is not recognized by the receiver and is therefore disregarded.

Error text in the error descriptor: A string containing the command name is included in the error text in the error descriptor.

Comment: –

4.2.22 Error code #: 444

Name: Unsupported or unknown descriptor

Definition: The descriptor in a command request or reply is not recognized by the receiver and is therefore disregarded.

Error text in the error descriptor: A string containing the name of the descriptor is included in the error text in the error descriptor.

Comment: –

4.2.23 Error code #: 445

Name: Unsupported or unknown property

Definition: Property name (Annex A of [ITU-T H.248.1]) or ItemID (Annex B of [ITU-T H.248.1]) of a property parameter within a descriptor is recognized but not supported and the command related to the property is not carried out.

Error text in the error descriptor: The property name (Annex A of [ITU-T H.248.1]) or ItemID (Annex B of [ITU-T H.248.1]) is included in the error text in the error descriptor.

Comment: –

4.2.24 Error code #: 446

Name: Unsupported or unknown parameter

Definition: The parameter in a command request is not recognized by the receiver and the command related to the descriptor is not carried out.

Error text in the error descriptor: The ParameterID is included in the error text in the error descriptor.

Comment: –

4.2.25 Error code #: 447

Name: Descriptor not legal in this command

Definition: The descriptor cannot be used in this command in accordance with the definition in Annexes A and B of [ITU-T H.248.1] and the command, including the descriptor, is not carried out.

Error text in the error descriptor: A string containing the name of the descriptor is included in the error text in the error descriptor.

Comment: –

4.2.26   Error code #: 448

Name: Descriptor appears twice in a command

Definition: The descriptor appears twice in the command and the command, including the descriptor, is not carried out.

Error text in the error descriptor: A string containing the name of the descriptor is included in the error text in the error descriptor.

Comment: –

4.2.27   Error code #: 449

Name: Unsupported or unknown parameter or property value

Definition: The value of a property or parameter within a descriptor is not recognized and the command, including the property/item, is not carried out.

Error text in the error descriptor: The parameter or property name followed by the unsupported or unknown value is included in the error text in the error descriptor.

Comment: –

4.2.28   Error code #: 450

Name: No such property in this package

Definition: Property name (Annex A of [ITU-T H.248.1]) or ItemID (Annex B of [ITU−T H.248.1]) of a property parameter within a descriptor is not recognized and the command, including the property/item, is not carried out.

Error text in the error descriptor: The property name (Annex A of [ITU-T H.248.1]) or ItemID (Annex B of [ITU-T H.248.1]) is included in the error text in the error descriptor.

Comment: –

4.2.29   Error code #: 451

Name: No such event in this package

Definition: The command, including the event name, is not executed because it is not considered to be a part of this version of the package.

Error text in the error descriptor: The event name is included in the error text in the error descriptor.

Comment: –

4.2.30   Error code #: 452

Name: No such signal in this package

Definition: The command, including the signal name, is not executed due to it not being considered by the MG to be a part of this version of the package.

Error text in the error descriptor: The signal name is included in the error text in the error descriptor.

Comment: –

4.2.31 Error code #: 453

Name: No such statistic in this package

Definition: The command, including the statistic name, is not executed due to it not being considered by the MG to be a part of this version of the package.

Error text in the error descriptor: The statistic name is included in the error text in the error descriptor.

Comment: –

4.2.32 Error code #: 454

Name: No such parameter value in this package

Definition: The command, including the parameter value, is not executed because it is not considered to be a part of this version of the package.

Error text in the error descriptor: The parameter name is included in the error text in the error descriptor.

Comment: –

4.2.33 Error code #: 455

Name: Property illegal in this descriptor

Definition: The command, including the property, is disregarded since the MG does not consider it to be a part of this descriptor.

Error text in the error descriptor: The property name is included in the error text in the error descriptor.

Comment: –

4.2.34 Error code #: 456

Name: Property appears twice in this descriptor

Definition: The command, including the property, is not executed due to the parameter or property appearing twice in this descriptor.

Error text in the error descriptor: The property name is included in the error text in the error descriptor.

Comment: –

4.2.35 Error code #: 457

Name: Missing parameter in signal or event

Definition: The command was disregarded due to a missing mandatory parameter.

Error text in the error descriptor: If possible, the missing parameter name is included in the error text in the error descriptor.

Comment: –

4.2.36 Error code #: 458

Name: Unexpected event/request ID

Definition: The command was disregarded because a notification for an event/request ID, that the MGC did not request, was received.

Error text in the error descriptor: The request ID is included in the error text in the error descriptor.

Comment: –

4.2.37   Error code #: 460

Name: Unable to set statistic on stream

Definition: The MG was unable to set the required statistic on a stream. The request has been disregarded.

Error text in the error descriptor: The statistic(s) ID(s).

Comment: –

4.2.38   Error code #: 471

Name: Implied add for multiplex failure

Definition: A termination listed within a multiplex descriptor could not be added to the current context and the "ADD" command is not carried out.

Error text in the error descriptor: The TerminationID is indicated in the error text in the error descriptor.

Comment: If the termination is already in a different active context, use error code 433.

4.2.39   Error code #: 472

Name: Required information missing

Definition: The required information to perform the function indicated by the property/signal/event/statistic sent from the MGC has not been provided to or provisioned on the MG. This dependent information may need to be set in one or more properties before the function/action can be performed. Therefore, the action is disregarded.

Error text in the error descriptor: The property name/signal name/event name/statistics name of the element sent by the MGC that required dependent information not available at the MG is included in the error text in the error descriptor.

Comment: –

4.2.40   Error code #: 473

Name: Conflicting property values

Definition: The values of two or more properties are incompatible with one another, and indicate an impossible or illogical operation. Therefore, the action is disregarded.

Error text in the error descriptor: The property names of the conflicting properties are included in the error text in the error descriptor.

Comment: –

4.2.41   Error code #: 500

Name: Internal software failure in the MG or MGC

Definition: A command could not be executed due to a software failure within the MG or MGC.

Error text in the error descriptor: –

Comment: For hardware failures, see error code 529.

4.2.42   Error code #: 501

Name: Not implemented

Definition: A property, parameter, signal, event or statistic mentioning the command has not been implemented.

Error text in the error descriptor: –

Comment: –

4.2.43   Error code #: 502

Name: Not ready

Definition: The command directed to a termination was not executed because of the service state of the termination.

Error text in the error descriptor: The service state is indicated in the error text in the error descriptor.

Comment: –

4.2.44   Error code #: 503

Name: Service unavailable

Definition: Not used.

Error text in the error descriptor: –

Comment: –

4.2.45   Error code #: 504

Name: Command received from unauthorized entity

Definition: Not used.

Error text in the error descriptor: –

Comment: –

4.2.46   Error code #: 505

Name: Transaction request received before a ServiceChange reply has been received

Definition: Sent by the MG/MGC that has sent a ServiceChange request to an MGC/MG and receives a transaction request from that MGC/MG before it has received the corresponding ServiceChange reply. The actions included in the transaction request are not carried out.

Reference: Clause 11.2 of [ITU-T H.248.1]

Error text in the error descriptor: –

Comment: –

4.2.47   Error code #: 506

Name: Number of TransactionPendings exceeded

Definition: Indicates that the maximum number of TransactionPendings have been received and that the transaction can be assumed to be in error.

Error text in the error descriptor: –

Comment: –

4.2.48 Error code #: 507

Name: Unknown Control Association

Definition: Returned by a MGC in response to a ServiceChangeRequest with method "Disconnect" when the MGC has no knowledge of the indicated control association. MGC should only return responses to MGs that it has knowledge of in order to minimise security issues.

NOTE – The MGC should respond using the same H.248 message version as the received message.

Error Text in the Error Descriptor: –

Comment: –

4.2.49   Error code #: 510

Name: Insufficient resources

Definition: The command(s) was rejected due to lack of common resources in the MG.

Error text in the error descriptor: The error text in the error descriptor includes the name or identity of the property, signal or event that represents a resource lacking in the MG.

Comment: –

4.2.50   Error code #: 511

Name: Temporarily busy

Definition: The command(s) was rejected due to a temporary busy condition in the MGC or MG.

Error text in the error descriptor: –

Comment: Upon receiving this error code, the command may be resent as the busy condition may have abated.

4.2.51   Error code #: 512

Name: Media gateway unequipped to detect requested event

Definition: The MG is unable to detect the requested event due to lack of resources.

Error text in the error descriptor: –

Comment: –

4.2.52   Error code #: 513

Name: Media gateway unequipped to generate requested signals

Definition: The MG is unable to send the requested signal due to lack of resources.

Error text in the error descriptor: –

Comment: –

4.2.53   Error code #: 514

Name: Media gateway cannot send the specified announcement

Definition: The MG is unable to send the requested announcement due to lack of resources.

Error text in the error descriptor: –

Comment: –

4.2.54 Error code #: 515

Name: Unsupported media type

Definition: The stream included in the command is not supported by the MG, therefore the command is disregarded.

Error text in the error descriptor: The streamID is included in the error text in the error descriptor.

Comment: –

4.2.55 Error code #: 517

Name: Unsupported or invalid mode

Definition: The stream mode value is not supported for that stream. Therefore, the command related to that parameter is not executed.

Error text in the error descriptor: The streamID and stream mode value is included in the error text in the error descriptor.

Comment: –

4.2.56 Error code #: 518

Name: Event buffer full

Definition: Indicates that the event buffer in the MG is full.

Error text in the error descriptor: –

Comment: Sent in a notify command.

4.2.57 Error code #: 519

Name: Out of space to store digit map

Definition: The MG is out of storage space for DigitMap descriptors, or is not capable of using DigitMaps.

Error text in the error descriptor: –

Comment: The MGC should fall back to single digit collection or unnamed digit maps.

4.2.58 Error code #: 520

Name: Digit map undefined in the MG

Definition: The digit map named in a command is not defined in the MG, and the command is not executed.

Error text in the error descriptor: The DigitMap name is included in the error text in the error descriptor.

Comment: –

4.2.59 Error code #: 521

Name: Termination is "Service Changing"

Definition: Not used.

Error text in the error descriptor: –

Comment: –

4.2.60 Error code #: 522

Name: Functionality requested in topology triple not supported

Definition: The MG was unable to apply the topology requested as it does not support the required interconnectivity.

Error text in the error descriptor: The invalid topology triples.

Comment: –

4.2.61 Error code #: 526

Name: Insufficient bandwidth

Definition: The MG was unable to execute a command because of insufficient bandwidth at the network interface or externally to the MG.

Error text in the error descriptor: –

Comment: –

4.2.62 Error code #: 529

Name: Internal hardware failure in MG

Definition: The command could not be executed due to hardware failure in the MG.

Error text in the error descriptor: –

Comment: This error code is to be generated if the failure situation is not already covered by a more specific error, such as "514 − MG cannot send specified announcement", or whatever error is appropriate.

4.2.63 Error code #: 530

Name: Temporary network failure

Definition: The command could not be executed due to a problem in the surrounding network. The problem is considered to be of a short-term duration.

Error text in the error descriptor: –

Comment: –

4.2.64 Error code #: 531

Name: Permanent network failure

Definition: The command could not be executed due to a problem in the surrounding network. The problem is considered to be of a long-term duration.

Error text in the error descriptor: –

Comment: –

4.2.65 Error code #: 532

Name: Audited property, statistic, event or signal does not exist

Definition: The MGC has tried to audit the value of a property or statistic which is currently not instantiated, or a signal that is not active, or an event that is not instantiated.

Error text in the error descriptor: –

Comment: –

4.2.66 Error code #: 533

Name: Response exceeds maximum transport PDU size

Definition: The MG or MGC is unable to assemble a complete transaction response because the number of bytes for the message would exceed the maximum protocol data unit size of the underlying transport. The command instance in the response to that would have caused the overflow to be treated as if it were in error, and the reminder of the transaction is not executed, even if the command was marked "optional".

This situation will typically arise in conjunction with the use of wildcarding, which causes the original command to be expanded into a series of similar command instances.

If the request contained a wildcarded termination ID, the MGC or MG should send later requests with a smaller subset of termination IDs.

Error text in the error descriptor: –

Comment: Implementers' note: the detection of PDU overflow must occur at a point where there is still room in the PDU for the error descriptor.

4.2.67 Error code #: 534

Name: Illegal write or read-only property

Definition: The MGC has tried to write a property whose characteristics are defined as read-only. The command containing the property is disregarded.

Error text in the error descriptor: A string containing the package ID and property ID of the property trying to be written.

Comment: –

4.2.68 Error code #: 542

Name: Command is not allowed on this termination

Definition: This error is generated when the MGC has tried to request the processing of a command, which is not allowed on the addressed H.248 termination.

Error text in the error descriptor: –

Comment: –

4.2.69 Error code #: 543

Name: MGC requested event detection timestamp not supported

Definition: This error code indicates that the MG is unable to provide event detection timestamps associated for requested event.

Error text in the error descriptor: If applicable, the event identifier (i.e., pkgdName).

Comment: This error shall be generated on request of an event (e.g., through an add, modify or move request) not at detection time (e.g., notify request).

4.2.70 Error code #: 581

Name: Does not exist

Definition: Not used.

Error text in the error descriptor: –

Comment: –

5 Service change reasons

5.1 Assigning service change reasons

The following considerations SHALL be met to register service change reason with IANA:

1) A one-phrase, 80-character maximum, unique reason code is registered for each reason.

2) A complete description of the conditions under which the reason it is used is detected, shall be included in a publicly available document. The description shall be sufficiently clear to differentiate the reason from all other existing reasons.

3) The document should be available on a public web server and should have a stable URL.

Reason text included in the ServiceChangeReason shall be coded according to the principles as specified in Annex A or B of [ITU-T H.248.1] with a white space between the reason number and the reason text.

5.2 Service change reason description

5.2.1 Reason #: 900

Name: Service restored

Definition: It indicates that the entity indicated with the TerminationID is in ServiceState "In-Service".

Reference: –

Text in the service change extension: –

Comment: –

5.2.2 Reason #: 901

Name: Cold boot

Definition: This indicates that the entity indicated by the TerminationID is in ServiceState "In-Service", and that it has gone through a start or recovery action, and all associated contexts, except the null context, have been cleared.

Reference: –

Text in the service change extension: –

Comment: This reason code only applies for TerminationID root.

5.2.3 Reason #: 902

Name: Warm boot

Definition: This indicates that the entity indicated with the TerminationID is in ServiceState "In-Service", and that it has gone through a start or recovery action. All transactions in process may be lost, but otherwise all states are preserved on the termination.

Reference: –

Text in the service change extension: –

Comment: This reason code only applies for TerminationID root.

5.2.4 Reason #: 903

Name: MGC directed change

Definition: This indicates that the MG is directed by an MGC to use the receiver as MGC.

Reference: –

Text in the service change extension: –

Comment: Clause 11.5 of [ITU-T H.248.1]

5.2.5 Reason #: 904

Name: Termination malfunctioning

Definition: This indicates that the entity indicated with the TerminationID is in ServiceState "Out-Of-Service" due to some problem directly related to the termination.

Reference: –

Text in the service change extension: –

Comment: –

5.2.6 Reason #: 905

Name: Termination taken out of service

Definition: This indicates that the entity indicated with the TerminationID is in ServiceState "Out-Of-Service" due to maintenance action.

Reference: –

Text in the service change extension: –

Comment: –

5.2.7 Reason #: 906

Name: Loss of lower layer connectivity (e.g., downstream sync)

Definition: This indicates that the entity indicated with the TerminationID is in ServiceState "Out-Of-Service" due to the termination having experienced loss of lower layer connectivity on the incoming stream.

Reference: –

Text in the service change extension: –

Comment: –

5.2.8 Reason #: 907

Name: Transmission failure

Definition: This indicates that the entity indicated with the TerminationID is in ServiceState "Out-Of-Service" due to the termination having experienced a transmission failure, e.g., a degradation of transmission quality.

Reference: –

Text in the service change extension: –

Comment: –

5.2.9 Reason #: 908

Name: MG impending failure

Definition: Indicates that the entity indicated with the TerminationID will go to the ServiceState "Out-Of-Service" and is unable to handle new traffic.

Reference: Clause 11.4 of [ITU-T H.248.1]

Text in the service change extension: –

Comment: This reason code only applies for TerminationID root.

5.2.10   Reason #: 909

Name: MGC impending failure

Definition: Indicates that the sender will go to the ServiceState "Out-Of-Service" and is unable to handle new transactions.

Reference: Clause 11.5 of [ITU-T H.248.1]

Text in the service change extension: –

Comment: –

5.2.11   Reason #: 910

Name: Media capability failure

Definition: This indicates that the entity indicated with the TerminationID has experienced a change of its media capability.

Reference: –

Text in the service change extension: –

Comment: –

5.2.12   Reason #: 911

Name: Modem capability failure

Definition: This indicates that the entity indicated with the TerminationID has experienced a change in its modem capability.

Reference: –

Text in the service change extension: –

Comment: –

5.2.13   Reason #: 912

Name: MUX capability failure

Definition: This indicates that the entity indicated with the TerminationID has experienced a change in its MUX capability.

Reference: –

Text in the service change extension: –

Comment: –

5.2.14   Reason #: 913

Name: Signal capability failure

Definition: This indicates that the entity indicated with the TerminationID has experienced a capability change for its signal capability. This includes changes in packages and/or signalIDs.

Reference: –

Text in the service change extension: –

Comment: –

5.2.15 Reason #: 914

Name: Event capability failure

Definition: This indicates that the entity indicated with the TerminationID has experienced a capability change for its events capability. This includes changes in packages and/or eventIDs.

Reference: –

Text in the service change extension: –

Comment: –

Note for codes 911-914; an audit with respect to the:

•   Current packages;
•   Current packages and properties (with values);
•   Event descriptor;
•   Signal descriptor;
•   Digit map descriptor,

may be performed to get more information about the changed condition.

5.2.16 Reason #: 915

Name: State loss

Definition: This indicates that the entity indicated with the TerminationID has experienced loss of state and that the ServiceState is out of service.

Reference: –

Text in the service change extension: –

Comment: –

5.2.17 Reason #: 916

Name: Packages change

Definition: This indicates that the packages, or package versions, implemented on the media gateway have changed. The MGC should consider performing an AuditValue of the media gateway to determine which packages have changed.

Reference: –

Text in the service change extension: –

Comment: –

5.2.18 Reason #: 917

Name: Capabilities change

Definition: This indicates that the capabilities of the media gateway have changed. This is used in the case where the package has not changed but the capabilities of properties/parameters have. The MGC should consider performing an AuditCapabilities of the media gateway to determine which capabilities have changed.

Reference: –

Text in the service change extension: –

Comment: –

5.2.19 Reason #: 918

Name: Cancel graceful

Definition: This indicates that the previously sent ServiceChange with method graceful should be cancelled.

Reference: Clause F.4.1 of [ITU-T H.248.1]

Text in the service change extension: –

Comment: –

5.2.20 Reason #: 919

Name: Warm failover

Definition: This indicates that the media gateway has failed over to a secondary. All transactions in process may be lost, but otherwise all states are preserved on the MG.

Reference: –

Text in the service change extension: –

Comment: This reason code only applies for TerminationID root.

5.2.21 Reason #: 920

Name: Cold failover

Definition: This indicates that the media gateway has failed over to a secondary and all associated contexts, except the null context, have been cleared.

Reference: –

Text in the service change extension: –

Comment: This reason code only applies for TerminationID root.

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