



APPENDIX A

Recoverable and Nonrecoverable Error Codes

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This appendix lists normal, recoverable and nonrecoverable error codes for the Cisco BTS 10200 Softswitch. [Table A-1](#) categorizes Media Gateway Control Protocol (MGCP) error codes into three categories: normal, recoverable, and non-recoverable. [Table A-1](#) also provides some of the behaviors of the Cisco BTS 10200 Softswitch for different MGCP message error codes. Endpoint connection (EPCF) and audit connection (AUCX) messages are not sent by the Cisco BTS 10200 Softswitch to the gateway.

Table A-1 *MGCP Normal, Recoverable, and Nonrecoverable Error Codes*

MGCP Error Code	Description	AUEP	DLCX	CRCX	MDCX	RQNT
200	The requested transaction was executed normally.	N	N	N	N	N
250	The connection was deleted.	F	N	N	N	R
400	Transient error. If this code is received, the Cisco BTS 10200 Softswitch tries to recover by retransmitting the MGCP message with a different transaction identifier for a predefined number of times before declaring the endpoint faulty. The number of times is configurable at platform startup time, its default is 2.	R	R	R	R	R
401	Phone is already off-hook. If this code is received, the Cisco BTS 10200 Softswitch updates the endpoint resource state and continues with normal operation	F	F	R	N	N
402	Phone is already on-hook. If this code is received, the Cisco BTS 10200 Softswitch updates the endpoint resource state and continues with normal operation.	F	F	R	N	N
403	Endpoint does not have sufficient resources at this time. If this code is received, the Cisco BTS 10200 Softswitch automatically recovers by auditing the endpoint, deleting any available connections and then idling the endpoint.	R	F	N	N	R
404	Insufficient bandwidth at this time. If this code is received, the Cisco BTS 10200 Softswitch automatically recovers by auditing the endpoint, deleting any available connections and then idling the endpoint.	F	F	N	N	R
405	The transaction could not be executed, because the endpoint is “restarting.”	R	F	N	N	R

Table A-1 *MGCP Normal, Recoverable, and Nonrecoverable Error Codes (continued)*

MGCP Error Code	Description	AUEP	DLCX	CRCX	MDCX	RQNT
406	Transaction time-out. The transaction did not complete in a reasonable period of time and has been aborted.	R	F	N	N	R
407	Transaction aborted. The transaction was aborted by some external action, e.g. a ModifyConnection command aborted by a DeleteConnection command	R	F	N	N	R
500	Endpoint is unknown. If this code is received during idling of an endpoint, the Cisco BTS 10200 Softswitch marks the endpoint as faulty and perform automatic recovery.	F	F	F	N	F
501	Endpoint is not ready. If this code is received, the Cisco BTS 10200 Softswitch automatically recovers by auditing the endpoint, deleting any available connections and then idling the endpoint.	R	F	N	N	R
502	The transaction could not be executed, because the endpoint does not have sufficient resources (permanent condition)	R	F	N	N	R
503	“All of” wildcard too complicated	F	F	N	N	R
509	Error in RemoteConnectionDescriptor	F	F	F	N	F
510	The transaction could not be executed, because some unspecified protocol error was detected. Automatic recovery from such an error will be very difficult, and hence this code SHOULD only be used as a last resort	R	F	N	N	R
511	The transaction could not be executed, because the command contained an unrecognized extension. This code SHOULD be used for unsupported critical parameter extensions (“X+”)	F	F	F	N	F
512	The transaction could not be executed, because the gateway is not equipped to detect one of the requested events	F	F	N	N	F
513	The transaction could not be executed, because the gateway is not equipped to generate one of the requested signals.	F	F	N	N	F
514	The transaction could not be executed, because the gateway cannot send the specified announcement.	F	F	N	N	R
515	The transaction refers to an incorrect Connection-ID (may have been already deleted).	F	N	N	N	R
516	The transaction refers to an unknown Call-ID, or the Call-ID supplied is incorrect (e.g. Connection-ID not associated with this Call-ID).	F	N	N	N	R
517	Unsupported or invalid mode.	F	F	F	N	R
518	Unsupported or unknown package. It is RECOMMENDED to include a PackageList parameter with the list of supported packages in the response, especially if the response is generated by the Call Agent.	F	F	F	N	F

Table A-1 *MGCP Normal, Recoverable, and Nonrecoverable Error Codes (continued)*

MGCP Error Code	Description	AUEP	DLCX	CRCX	MDCX	RQNT
519	Endpoint does not have a digit map	F	F	N	N	R
520	The transaction could not be executed, because the endpoint is “restarting.” In most cases this would be a transient error, in which case, error code 405 SHOULD be used instead. The error code is only included here for backwards compatibility	R	F	N	N	R
521	Endpoint redirected to another Call Agent. The associated redirection behavior is only well-defined when this response is issued for a RestartInProgress command	F	F	N	N	R
522	No such event or signal. The request referred to an event or signal that is not defined in the relevant package (which could be the default package).	F	F	N	N	F
523	Unknown action or illegal combination of actions	R	F	N	N	R
524	Internal inconsistency in LocalConnectionOptions.	F	F	N	N	R
525	Unknown extension in LocalConnectionOptions. This code SHOULD be used for unsupported mandatory vendor extensions (“x+”).	F	F	F	N	R
526	Insufficient bandwidth. In cases where this is a transient error, error code 404 SHOULD be used instead.	F	F	N	N	R
527	Missing RemoteConnectionDescriptor.	F	F	F	N	R
528	Incompatible protocol version	F	F	F	N	F
529	Internal hardware failure	F	F	F	N	F
530	Channel-associated signaling (CAS) protocol error	R	F	N	N	R
531	Failure of a grouping of trunks (e.g. facility failure)	F	F	N	N	R
532	Unsupported value(s) in LocalConnectionOptions.	F	F	F	N	R
533	Response too large.	F	F	N	N	R
534	Codec negotiation failure.	F	F	N	N	R
535	Packetization period not supported.	F	F	N	N	R
536	Unknown or unsupported RestartMethod	F	F	N	N	R
537	Unknown or unsupported digit map extension	F	F	N	N	F
538	Event/signal parameter error (e.g. missing, erroneous, unsupported, unknown, etc.).	F	F	N	N	F
539	Invalid or unsupported command parameter. This code SHOULD only be used when the parameter is neither a package or vendor extension parameter	F	F	N	N	R
540	Per endpoint connection limit exceeded.	F	F	N	N	R
800		F	F	N	F	F
801		F	F	N	F	F
802		F	F	N	F	F

Table A-1 *MGCP Normal, Recoverable, and Nonrecoverable Error Codes (continued)*

MGCP Error Code	Description	AUEP	DLCX	CRCX	MDCX	RQNT
803		F	F	N	F	F
Unknown like 900		F	F	F	F	F
Invalid or absent transaction identifier		RX	RX	RX	RX	RX
Note	AUEP—audit endpoint, DLCX—delete connection, CRCX—create connection, MDCX—modify connection, RQNT—notification request					
Note	Normal (N)—other than 200 error code, the Cisco BTS 10200 Softswitch clears the call. recoverable (R)—: the Cisco BTS 10200 Softswitch clears the call and starts finite recovery. non-recoverable (NR) or faulty (F)— the Cisco BTS 10200 Softswitch clears the call.					
Note	For 400 error codes, the Cisco BTS 10200 Softswitch re-transacts (RT) the corresponding MGCP message. The Cisco BTS 10200 Softswitch also retransmits (RX) the MGCP message with the same transaction.					