



SMS 365, operator service SS7 Error Codes

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Revision History

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1.1	27.01.21	SI	Updated and rebranded

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1 Introduction

SMS 365 provides one of the most comprehensive SMS interoperability solutions in the world. Regardless of mobile network type (GSM, CDMA, TDMA, iDEN or even Over-the-Top [OTT]), business model, or specific operator requirements, SMS 365 has a solution to fit the changing needs of Person-to-Person Messaging interoperability.

SMS 365 provides two focused solution sets to meet the needs of virtually any operator around the world. While the SMS 365 global interoperability network is fully integrated, the focused concept provides regional and global markets a tailored solution designed for specific business models and technical requirements.

This Error Code Description document focuses on SS7 connectivity error codes.

1.1 General

This document defines the Return/Error Codes produced by the SMS 365 – SS7 protocol upon receipt of a message. This Code will either inform the Originating Operator whether the messages were successfully delivered to the Destination Operator or if it failed due to an error.

1.2 References

1] 3GPP Specification GSM 09.02



2 Return/Error Codes

When an Operator sends a message to the SMS 365, it will return a Code to denote successful or unsuccessful delivery.

The Return/Error Code is composed of 4 fields: X/Y/Z/T. Each field and their combination indicate the type of error.

Error Code	Description
X	MAP User Error
Y	Provider Error
Z	Delivery Failure Cause
T	Network Result

The MAP User Error is as per GSM 09.02. X/Y/Z/T is a proprietary syntax. Major error codes are:

Error Code	Description
0/0/0/0	OK
1/0/0/0	Unknown subscriber
27/0/0/0	Absent subscriber
0/8/0/0	Time-out – no reply from the SS7 network
32/0/1/0	SIM card full

SMS 365 only perform retries for customer operators that have chosen Relay Mode as a delivery option. For Transparent Mode, the originating operator performs the retries, not SMS 365. For more information on retries, please refer to Section 3, Retries.



2.1 1st Field: MAP-User-Error (X/0/0/0)

This first field (X) can contain different values while all the other fields are set to 0.

Note: When X=32 and the other fields are not set to 0, the analysis of the error code differs:

	Reference	Description	Retry
X = 0	OK	Delivery was successful	No
X = -1	Unknown User Error	Unknown User Error	Yes
X = 1	Unknown Subscriber or Destination not Found	Destination Handset Number does not exist in the Numbering Plan.	No
X = 2	Unknown Status of Delivery	Reception status of SMS is unknown and no acknowledgement of delivery.	No
X = 3	User Error	External Operator specific error code.	No
X = 5	Unidentified Subscriber	<ul style="list-style-type: none"> The Origin Number does not exist in the Numbering Plan. On a FWD_SM_MT, the subscriber (identified by the IMSI) is not in the visited MSC. 	No
X = 6	Absent Subscriber SM	Absent Subscriber	Yes
X = 7	No Response for Outgoing Dialog-ID	No Response for Outgoing Dialog-ID	No
X = 8	No Response from Peer	The delivering node has not received a response. The HLR may not be reachable or the subscriber may be roaming in a country where the delivering node does not have a roaming agreement.	No
X = 9	Illegal Subscriber	Invalid subscriber.	No
X = 11	Teleservice Not Provisioned	No SMS Service for this reachable Operator or this Handset	No
X = 12	Illegal Equipment	Invalid Terminal	No
X = 13	Call Barred	Invalid Terminal.	No
X = 14	SMS Service is not Reachable	No routing exists to destination.	No



	Reference	Description	Retry
X = 15	No SMS service and not reachable	Destination is not reachable and SMS service is not available.	No
X = 16	Enabled (but not SMS confirmation)	No roaming route.	No
X = 17	No route to visited MSC	The destination handset is roaming on a network that SMS 365 has no reach.	No
X = 18	Localization Service disabled for this ISP	The requesting ISP is not registered for the localization feature service	No
X = 19	“Local Time” service disabled for this ISP	The requesting ISP is not registered for the localization feature service.	No
X = 20	Illegal Origin Address	Origin address is not recognized.	No
X = 21	Facility Not Supported	No response.	No
X = 22	User Error	External Operator specific error code.	No
X = 27	Subscriber Absent	The subscriber has turned off his handset.	Yes
X = 28	Restricted Destination	The destination is unreachable or barred.	No
X = 31	Subscriber Busy	The GSM subscriber is busy for MT-SMS.	Yes
X = 32	SM Delivery Failure	SIM card is full.	Yes
X = 33	Message Waiting List Full	Voicemail is full.	No
X = 34	System Failure	MSC or PC is not recognized; Temporary congestion of visited MSC.	Yes
X = 35	Visited MSC Congestion	MSC Congestion	Yes
X = 36	Unexpected Data Value	Unacceptable data value.	No
X = 37	Resource Limitation (Congestion)	Network congestion.	Yes
X = 38	Initiating Release Length > 160 characters	The receiving SMSC or SME does not accept messages with more than 160 characters.	No
X = 39	No more http sessions available	The maximum number of http or SMPP sessions has been reached.	No



	Reference	Description	Retry
X = 40	No SS7 Route	No SS7 Route	Yes
X = 62	SS7 instead of IP	Localization specific mode	No
X = 63	SMSMT put in Store & Forward	Cannot reach the destination handset, and has stored the message for retry in its « Store & Forward » function.	
X = 64	SMSMT abandoned on expiration of Validity Period	Validity period has been reached and abandons.	No
X = 65	Abnormal MAP dialog	A CLOSE_IND has been received without CNF to a request that was sent.	No
X = 68	"On going"	The "Home SMSC" has accepted the SMS. No known status.	No
X = 100	Not authorized end-user entry	End-user sending messages when it is not authorized to do so.	No
X = 255	Resource Limitation (Congestion) (same as 37) above	Time out on Entry	No



2.2 2nd Field: Prov_Err (0/Y/0/0)

This second field (Y) can take different values while all the other fields are set to 0. The error message differs according to the value of the 2nd field.

	Reference	Description
Y = 0	OK	Delivery was successful.
Y = 1	Duplicated invoke ID	Duplicated invoke ID.
Y = 2	Not supported service	Service not supported.
Y = 3	Mistyped parameter	Bad parameter sent to destination network.
Y = 4	Resource limitation	Could also be incompatible versions or bad parameter.
Y = 5	Initiating release	Initiating release.
Y = 6	Unexpected response from peer	Unexpected response from peer.
Y = 7	Service completion failure	Service completion failure.
Y = 8	No response from peer	No response from peer.
Y = 9	Invalid response received	Mandatory parameter missing.
Y = 255	Congestion	Congestion.

On any of these provider errors, the Router sends a MAP_U_ABORT_REQ to the protocol to close the dialog that it has opened.



2.3 3rd Field: Deliv_Fail_Cse (with user_err = 32: SM_delivery_failure (32/0/Z/0)

This third field (Z) can take different values while the first field is set to 32 and the other fields are set to 0. The error message differs according to the value of the 3rd field.

	Reference	Description
Z = 0	Memory capacity exceeded	Memory capacity exceeded.
Z = 1	Equipment protocol error	Equipment protocol error.
Z = 2	Equipment protocol error	Equipment protocol error.
Z = 3	Unknown service center	Unknown service center.
Z = 4	SC congestion	The number of SMS waiting in the destination SMSC exceeds the maximum number for the destination subscriber which has been unreachable for some time, max = 8 is a typical value
Z = 5	Invalid SME address	Destination Address error. This occurs with SMSCs which restricts the possibility of SMS submission toward existing real subscribers. The SMS was sent to the SMSC with a Destination Address which does not correspond to an existing subscriber.
Z = 6	Subscriber not SC subscriber	Origin Address error. This occurs with SMSCs which allows only their own subscribers to submit SMS-MO to the SMSC. The SMS was sent to the SMSC with an Origin Address which is not recognized as a subscriber of this network.
Z = 255	Congestion	Congestion.



2.4 4th Field: Ntwk_Res (with user_err=34:SM_Network resource (34/0/0/T))

This fourth field (T) can take different values while the first field is set to 34 and the other fields are set to 0. The error message differs according to the value of the 4th field.

	Reference
T = 0	PLMN
T = 1	HLR
T = 2	VLR
T = 3	Controlling MSC
T = 4	VMSC
T = 5	EIR
T = 6	RSS
T = 96	SPAM – Keyword Blocking
T = 97	SPAM – Repeat Content Blocking
T = 99	SPAM
T = 255	Default for congestion issue



3 Retries

This section outlines and defines SMS 365's retry process **which is only applicable to SMS 365 customer operators that are using the Relay Mode for delivery.**

Upon receipt and delivery of a message, SMS 365 will return an Error Code to denote successful or unsuccessful delivery. For certain Error Codes, SMS 365 will attempt to deliver the message again – referred to a retry.

- In the Map-Send-Routing-For-SM (SRI) response to the operator, the MSISDN is returned as the IMSI value and the SMS 365 Global Title (GT) is returned as the MSC value.
- If the SRI or Forward-Short-Message (FSM) response from the destination operator contains a permanent error (for example, unknown subscriber), then this error is returned immediately to the customer operator.
- If a temporary error (for example, absent subscriber) is returned, then SMS 365 will store the message and retry it as necessary.
- This is accomplished by first issuing a ReportSM-DeliveryStatus and then resending the message once the AlertServiceCenter message is received from the destination network.

3.1 Retry Error Codes

For customer operators in Relay Mode, SMS 365 performs Retries on the following Error Codes:

	Reference	Description
X = -1	Unknown User Error	Unknown User Error
X = 6	Absent Subscriber SM	Absent Subscriber
X = 27	Subscriber Absent	The subscriber has turned off his handset.
X = 31	Subscriber Busy	The GSM subscriber is busy for MT-SMS.
X = 32	SM Delivery Failure	SIM card is full.
X = 34	System Failure	MSC or PC is not recognized; Temporary congestion of visited MSC.
X = 35	Visited MSC Congestion	MSC Congestion
X = 37	Resource Limitation (Congestion)	Network congestion.
X = 40	No SS7 Route	No SS7 Route