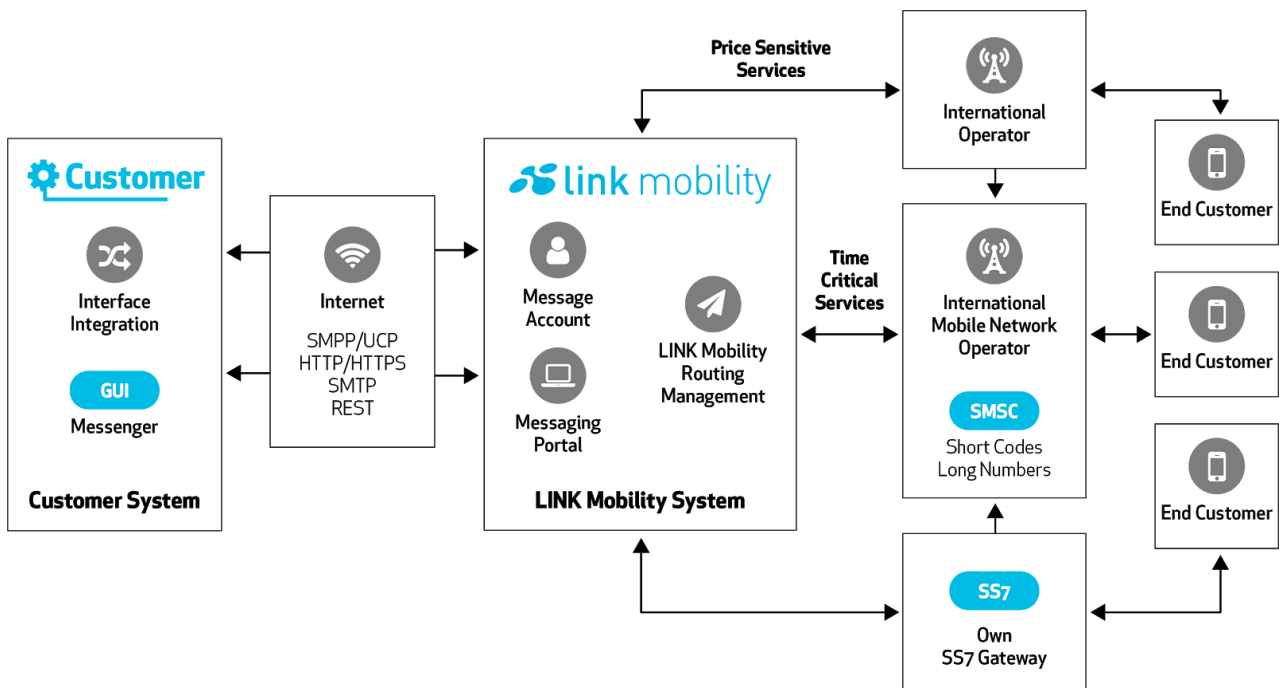


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1. Introduction

SMS Outbound from LINK Mobility allows contracting parties to implement maximum-quality SMS services at the international level. The main performance features of individual products from the range of “SMS Outbound” are specified below.

2. Overview



3. SMS Outbound

The product “SMS Outbound” offers the contracting party the ability to send high-quality text messages at reasonable cost via the infrastructure of LINK Mobility to national and international mobile networks. For this, whatever mobile sets up a message account for the contracting party on

the whatever mobile platform which the contracting party accesses in one of the ways listed in the section describing gateway types.

The message account is normally configured with a maximum throughput of 5 msg per second and allows simultaneous access to a connection with an IP address chosen by the contracting party. Should the contracting party have a proven requirement for higher bandwidth or need simultaneous access to several IP addresses through multiple parallel connections, LINK Mobility can easily expand the message account.

Text messages sent by the contracting party to the message account are immediately transmitted to the mobile networks for delivery in accordance with the assigned Routing Service Class (see also API Specification). It is irrelevant whether the contracting party transmits to LINK Mobility simple text-only messages or, through appropriate encoding, special types of text message (concatenated, binary, unicode, flash, etc). A concatenated text message is a message with a total number of characters greater than 160. Because these are in fact multiple text messages, LINK Mobility charges the contracting party for the actual number of messages sent. Because the various mobile network operators interpret the character set differently, a text message with special characters and a total number of characters close to the maximum for a message may in rare cases be delivered as a concatenated message. In this case, the mobile network operator charges LINK Mobility for multiple text messages. LINK Mobility also always charges to the contracting party the costs for the actual number of text messages sent.

Messages sent to an invalid address are accounted for separately. An invalid address is for example the use of an incorrect number syntax. In some cases, mobile network operators reject the delivery of messages. This occurs for example with an incorrect message syntax or an incoming phone number for which the mobile network operator has no routing. A special charge is levied for such messages.

3.1. Routing Service Classes

LINK Mobility assumes total quality management responsibility and ensures high-quality delivery (according to the Routing Service Class chosen as well as the particular requirements of the client). The main performance characteristics for each of the Routing Service Classes are specified below:

	Time Critical Services	Price Sensitive Services
Exploitability	e.g. time critical services such as one-time passwords or alerts	e.g. marketing services Any types of traffic requiring a highly favourable pricing

<p>Delivery Route</p>	<p>Message is delivered as far as possible via the infrastructure of the (destination) network operator, i.e. for messages to Vodafone also via the relevant direct gateway.</p> <p>Product option: If a preferentially used SMSC gateway fails temporarily or delivery problems are detected by the continuous quality monitoring systems at LINK Mobility, there is an automatic switchover after a few minutes to alternative direct connections maintained by national or international SMSCs or LM's own SS7 gateways. The switchover is limited exclusively to the duration of the detected failure. Additionally, a geo-redundant connection is available.</p> <p>Another product variant allows the delivery via direct or indirect connections to reliable international SMSCs as well as LM's own SS7 gateways. So-called Interworking or Roaming Agreements between the SMSCs used for delivery and the destination network ensure the timely delivery to the mobile networks.</p>	<p>Message is delivered as far as possible via foreign network operators or LINK Mobility's own mobile network components (SS7 gateways) to the relevant destination networks.</p>
<p>Benefits</p>	<ul style="list-style-type: none"> ▶ high delivery quality ▶ high throughput ▶ variable sender identification 	<ul style="list-style-type: none"> ▶ high delivery quality ▶ very favourable price ▶ Variable sender identification (where applicable)
<p>Please note</p>	<ul style="list-style-type: none"> ▶ When using international SMSC's: The time stamp is set by the foreign SMSC. If the SMSC is in another time zone, the receiver will be shown the sending time for that time zone. ▶ If applicable, supported GSM features may be restricted. 	<ul style="list-style-type: none"> ▶ Delivery time may be slightly longer (up to several seconds) ▶ The time stamp is set by the foreign SMSC. If the SMSC is in another time zone, the receiver will be shown the sending time for that time zone. ▶ Market prices: Routing and price changes are possible. ▶ If applicable, supported GSM features may be restricted.

For each message account, only the assigned Routing Service Class may be used. If the contracting party wishes to use other Routing Service Classes, they will need their own message account for each other Routing Service Class.

Please note that price changes may occur at short notice for the Routing Service Class “Price Sensitive Services” due to cancellation of the inter-working agreements listed. Delivery of your short messages will however be guaranteed in all cases through alternative routes utilised. LINK Mobility makes every effort to inform the contracting party promptly about price changes.

For the majority of Routing Service Classes, LINK Mobility has one or even several alternative delivery routes, known as backup routes. If one delivery option fails, the backup route immediately takes over the operation in progress.

3.2. Delivery to the Telekom Deutschland fixed network

Delivery to the Telekom Deutschland fixed network is easily achieved using the LINK Mobility infrastructure. Text messages are delivered to SMS-capable devices, generally within a few seconds. If the device does not support text messaging, the message is read out by a voice service between 7:00 a.m. and 10:00 p.m. Telekom Deutschland sets the time restriction, intended to prevent night disturbance by incoming text messages. For delivery of a text message by voice, there can be delays in the Telekom Deutschland SMSC.

For delivery to the fixed network, free setting of senders is also restricted. Numeric senders are always supported. Incoming alphanumeric senders, however, are automatically overwritten with the LINK Mobility short code number 86000.

3.3. Delivery to international networks

Delivery to international networks is easily achieved using the LINK Mobility infrastructure. The conditions for international termination are published on the internet at www.sms-broker.com. For delivery to networks outside Germany or Austria, the scope of service is similar to that described above. Note that exceptions to this rule include national restrictions on setting the sender and on transmission of delivery notifications. Information on this subject is obtainable from the sales staff at LINK Mobility.

3.4. Delivery notifications via the Telekom Deutschland fixed network

If the contracting party requests a delivery notification for transmitted text messages, they will receive it at the rates listed in the Contract Form. At the same time, confirmations such as “Buffered” or “Acknowledged” will be delivered by LINK Mobility.

3.5. Delivery notifications in German mobile networks

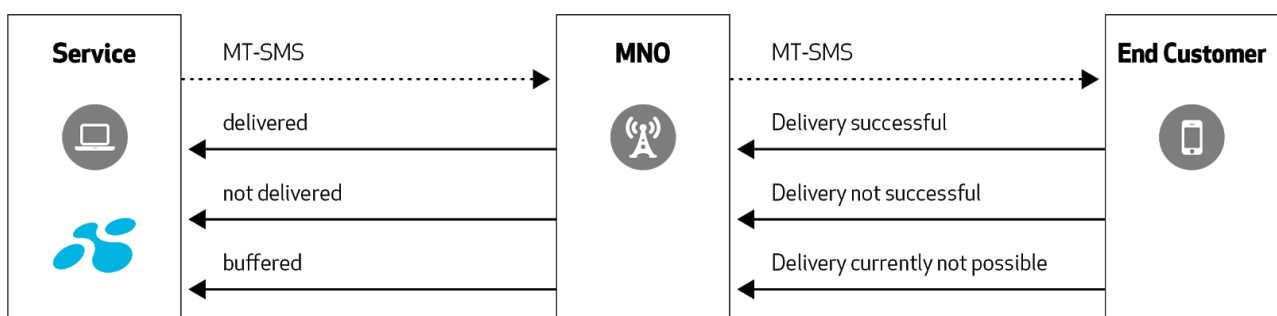
The SMSCs of all German mobile network operators (MNO) make available the current delivery status of submitted text messages. For delivery notifications in German mobile networks, a distinction is drawn between two final and two temporary status codes:

Final status codes

	Description
delivered	The network operator has successfully delivered the text message.
not delivered	The network operator has not successfully delivered the text message.

Temporary status codes

	Description
buffered	The network operator has received the text message but not yet delivered it to the mobile device. The most frequent reason is a switched-off mobile device. “Buffered” is a temporary status and after the network operator has delivered the message, gives way to “delivered” or “not delivered”.
no status	The network operator has not assigned a status to the text message.



As a rule, a reason for the status in the form of a “reason code” is supplied for the status codes “not delivered” and “buffered”, depending on the protocol used (e.g. SMPP or UCP). The actual supply of

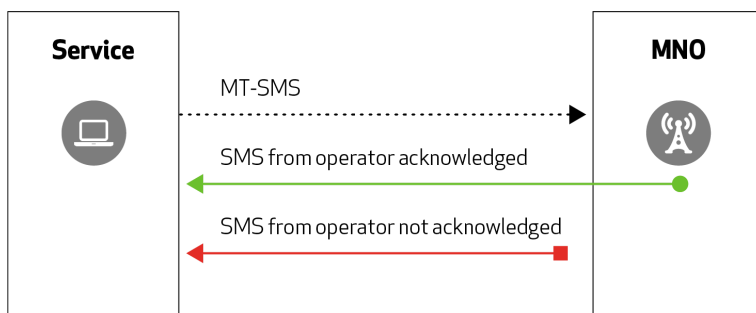
the reason code is protocol-specific and may be found in the relevant interface specifications. Here are some examples of SMPP codes:

- ▶ expired The message has exceeded its storage period.
- ▶ invalid The message is not valid.
- ▶ rejected The network operator rejected the message.
- ▶ absent subscriber The device is switched off.

Optionally, LINK Mobility can also return the message to the network operator in the form of a status code:

Status codes

	Description
sms from operator acknowledged	The message was acknowledged by the network operator (ACK).
sms from operator not acknowledged	The message was not acknowledged by the network operator (NACK).



3.6. Delivery notifications in Austrian networks

In view of the heterogeneous SMSC infrastructure of mobile network operators in Austria, the LINK Mobility infrastructure sends a “delivered” status when receipt of the message is acknowledged by the network operator.

3.7. WAP Push messages to Telekom Deutschland mobile devices

In Germany, there are approx. 4.5 million mobile devices with Telekom branding (as at February 2011) which accept WAP Push messages solely from a special Telekom SMSC. All incoming WAP Push messages from other SMSCs (including Telekom’s own) are automatically deleted by these devices

immediately after receipt without any indication to the end user. LINK Mobility has a gateway to this special Telekom WAP Push SMSC. LINK Mobility automatically forwards to the special Telekom WAP Push SMSC any text messages which represent a WAP Push message and are transmitted by the Routing Service Classes of "Time Critical Services" with a Telekom destination.

3.8. Setting the text message sender

In general, the contracting party has the ability to freely set the sender of the message sent by him under the API specification. However, without the express consent of LINK Mobility, no short codes and value-added numbers [premiumrate numbers] may be used as sender where the use is not covered by a contract between the contracting party or LINK Mobility with the relevant mobile network operator.

The contracting party must also ensure that, where an MSISDN is chosen as the message sender for the messages passed by them to LINK Mobility, they are the commercial owner of the MSISDN or that they hold the express consent of the commercial owner for the use of the MSISDN number as sender. In addition, sender IDs which infringe § 2.2 of the general terms and conditions (for example brand names such as "Vodafone") and senders containing a 0900 or similar number are not allowed. They will not be transmitted by LINK Mobility to the destination networks, but will however be charged.

On request, the contracting party will without delay confirm, or supply documentation on, compliance with the above points. In the event of infringement of this provision, the contracting party will keep LINK Mobility exempt from all valid claims from third parties. Where text messages are transmitted to the Deutsche Telekom fixed network, only numeric senders can be used. If the contracting party transmits an alphanumeric sender ID, it will be replaced by a (short code) number from the Telekom Deutschland SMSC.

3.9. SMS Outbound – with direct reply capability in Germany

With the direct reply option, LINK Mobility offers a cost-efficient product extension for sending and receiving messages using a pool of long telephone numbers. With this option, a return channel is opened for sent text messages. It has a guaranteed duration of 14 days, but the arrival of a reply extends the channel by 48 hours. After the end of the guaranteed duration, the maximum channel life is 14 days. Active channel management enables such incoming messages to be assigned to the message account using the mobile handset number. These are held accordingly in the account used for sending.

3.10. Delivery of cost centers

The contracting party has the optional possibility to use cost centers when delivering messages to the platform of LINK Mobility. The cost centers are displayed in the Account Statement of the Messaging Portal. This feature enables the contracting party to group messages by cost centers. Characters and digits may be chosen freely, however, the maximum length may not exceed 64 characters. This functionality is only available when using the HTTP protocol.

3.11. Setup, operating and transaction charges

Setup, operating and transaction-dependent charges are specified in the Contract Form. In the event of any increase in the price for sending text messages on the part of the mobile network operators or as a result of a change in routing by LINK Mobility, the latter will inform the contracting party accordingly without delay. Any such price change is valid from the time of the increase, regardless of when the contracting party is informed.

4. Glossary

Term	Meaning	Explanation
▶ Added-value number (premium-rate number)		▶ A number to which SMS or MMS messages can be sent. Sending an SMS or MMS message to an added-value number costs the end customer more than sending an SMS text message to a mobile handset
▶ Billing	▶ Billing or invoicing	▶ Successful entry of transactions in the invoicing systems (e.g. of mobile network operators or LINK Mobility)
▶ Contracting party		▶ Purchases LINK Mobility services
▶ Dedicated	▶ Exclusive	▶ e.g. exclusive use of a short code, i.e. all incoming SMS messages are forwarded to the contracting party's message account
▶ IP address	▶ Internet address	▶ e.g. 111.110.12.58
▶ Keyword		▶ Serves to identify and assign an end-customer text message to a contracting party's message account or application
▶ Kickback		▶ Commission on certain sales depending on the generated volume
▶ Message		▶ A message can comprise several SMS text messages
▶ MNO	▶ Mobile Network Operator	▶ Holds a licence to operate a mobile telephone network including all necessary network components
▶ MO-SMS	▶ Mobile Originated SMS	▶ An SMS text message sent by the end-customer (mobile device)
▶ MSISDN	▶ Mobile Subscriber Integrated Services Digital Network Number	▶ Also known as "mobile number"
▶ MT-SMS	▶ Mobile Terminated SMS	▶ An SMS text message sent to the end-customer (mobile device)
▶ MVNO	▶ Mobile Virtual Network Operator	▶ Uses an MNO's infrastructure to operate its "own" mobile telephone network. Maintains its own active network components (e.g. Virgin Mobile in the UK)
▶ Routing		▶ Denotes the sending of SMS/MMS

		messages via special gateways (e.g. via foreign mobile network operators)
▶ Service Provider		▶ Uses an MNO's infrastructure to operate their "own" mobile telephone network. Does NOT maintain own active network components (e.g. Congstar)
▶ Shared	▶ Shared use	▶ Shared use of existing short codes and long numbers via keywords
▶ SMS	▶ Short Message Service	▶ Short text message, 160 characters maximum
▶ SMS short code		▶ Short code, e.g. 12345, to which SMS text messages may be sent
▶ SMS long number		▶ Long number, e.g. 0176-888 00 88, to which SMS text messages may be sent
▶ SMSC	▶ Short Message Service Center	▶ Each network operator maintains their own SMSC for the sending and receipt of SMS text messages. In the SMSC, short codes for instance are set up. The SMSC is the interface of LINK Mobility with the relevant mobile telephone network.
▶ Termination		▶ Sending of SMS text messages to a mobile device (mobile handset)
▶ vSMSC	▶ virtual Short Message Service Center	▶ Numerous service providers maintain their own vSMSC. In the vSMSC, short codes for instance are set up. The vSMSC are the whatever mobile interface to the relevant service provider networks