



# **Lleida.net SMPP Interface Implementation Guidelines**

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Lleida.net

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# Documentation control

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## Historic documentation

Version	Description	Date
1.0	Initial version of the document	29.11.2011
1.1	One simultaneous connection per server is accepted. QRY_LINK corrected to ENQUIRE_LINK. QRY_LINK_RESP corrected to ENQUIRE_LINK_RESP. Pricing link: <a href="http://www.lleida.net/en/operator-services">http://www.lleida.net/en/operator-services</a>	24.02.2015
1.2	General documentation update	01.08.2019
1.3	Connection parameters section updated	25.06.2021
1.4	Change of one SMSC and peer	01.03.2022
1.5	Updated destination IP and peer for SMSC 1&3	19.10.2023

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# Introduction

This document specifies the Lleida.net SMPP interface. The SMPP gateway was implemented based on the SMPP Developers Forum specification, Version 3.4 Issue 1.2.

## 1. Glossary and definitions

ACK	Acknowledgment
ESME	External Short Message Entity
MO	Mobile Originated SMS (i.e. From mobile handset to SMSC)
MT	Mobile Terminated SMS (i.e. From SMSC to mobile handset)
NACK	Negative Acknowledgment
NPI	Numbering Plan Indicator
PDU	Protocol Data Unit
SMPP	Short Message Peer to Peer Protocol
SMSC	Short Message Service Center
TON	Type of Number
UDH	User Data Header
UDHI	User Data Header Indicator

## 2. Registration procedures

You need a valid Lleida.net SMS Service account in order to connect to our gateway provided by your account manager. Once the registration process is complete, you will be provided a login and a password.

## 3. Connection parameters

Three servers are offered to connect to the service. One simultaneous connection per server is accepted. The three available servers are:

Server ID	Host	IP	Port
1	sms.a.lleida.net	194.149.72.136	2055
3	sms.c.lleida.net	194.149.74.136	2055
5	sms.e.lleida.net	194.149.73.136	2055

The only supported binding procedure is *BIND\_TRANSCEIVER*. The bind PDU must use the following parameters:

Parameter	Description
system_id	The username you have been provided by Lleida.net
password	The supplied password
system_type	(Optional) An identifying string of your interface type

The rest of the *BIND\_TRANSCEIVER* PDU parameters must be assigned to the default values.

### 3.1. TLS Connection

If a customer requires to establish a SMPP bind via TLS, it should be performed in port 2065. Please, notice that we only accept SSL TLS 1.2 protocol. The available servers are:

Server ID	Host	IP	Port
1	sms.a.lleida.net	194.149.72.136	2065
3	sms.c.lleida.net	194.149.74.136	2065
5	sms.e.lleida.net	194.149.73.136	2065

## 4. Supported SMPP operations

Lleida.net SMPP service is compliant with SMPP version 3.4. The client application **MUST** use this version of the protocol. The supported SMPP operations are:

Client to server	Server to client
BIND_TRANSCEIVER	BIND_TRANSCEIVER_RESP
UNBIND	UNBIND_RESP
SUBMIT_SM	ENQUIRE_LINK
DELIVER_RESP	ENQUIRE_LINK_RESP
ENQUIRE_LINK	SUBMIT_SM_RESP
ENQUIRE_LINK_RESP	DELIVER_SM

All standard SMPP optional parameters are neither required nor supported. Some optional parameters are described in the next section.

All the error codes the server sends to the client applications are the standard SMPP error codes (please, refer to the SMPP protocol specification).

## 5. Supported encoding types

Lleida.net SMPP platform supports below types of encoding:

- Latin 1: ISO-8859-1. Characteristics: 7-bit, DCS = 3.
- Octet unspecified. Characteristics: 8-bit binary, DCS = 4.
- GSM 03.38. Characteristics: 7-bit, DCS = 0.
- ASCII. Characteristics: 7-bit, DCS = 1.
- UCS2: ISO/IEC-10646. Characteristics: DCS = 8.

Notice depending on end operator might be different restrictions of encoding.

## 6. Optional parameters

Our SMPP server supports both the sending and the receiving of some optional parameters to allow, as an example, the credits management.

### 6.1.Credit

This parameter is used to show the remaining credits of the user's account. This optional parameter will be included in the server in messages *BIND\_TRANSCIEVER\_RESP* and *SUBMIT\_SM\_RESP*.

Field	Size	Type	Description
Parameter Tag	2	Integer	credit_id = 0x1401
Length	2	Integer	Length of Value parameter in octets
Value	Variable	String	Remaining credits

### 6.2.Delivery Report mail

This parameter uses the *SUBMIT\_SM* command to specify the email address to receive the message delivery receipts.

Field	Size	Type	Description
Parameter Tag	2	Integer	credit_id = 0x1402
Length	2	Integer	Length of Value parameter in octets
Value	Variable	String	Email address

### 6.3.Delivery Report language

This parameter uses the *SUBMIT\_SM* command to specify the language of the delivery receipts arriving to your mailbox. It is compulsory to specify the *dr\_mail\_language* parameter.

Field	Size	Type	Description
Parameter Tag	2	Integer	credit_id = 0x1403
Length	2	Integer	Length of Value parameter in octets
Value	Variable	String	Delivery report language

The following ISO codes are the possible values for the *dr\_mail\_language* parameter:

Code	Language
ES	Spanish (default language)
CA	Catalan
EN	English
FR	French
DE	German
IT	Italian
NL	Dutch
PT	Portuguese
PL	Polish
SE	Swedish

### 6.4.Delivery Report certified type

This parameter uses the *SUBMIT\_SM* command to determine the type of certified delivery receipt from the sent message. It is compulsory to specify the *dr\_mail\_language* parameter.

Field	Size	Type	Description
Parameter Tag	2	Integer	credit_id = 0x1404
Length	2	Integer	Length of Value parameter in octets
Value	Variable	String	Delivery report certified type

The value contained in *dr\_mail\_cert\_type* is always "D" (Default Service).

## 7. Source and destination mobile addresses

The *dst* parameter of the *SUBMIT\_SM* command must be in international format, without the former '+' symbol. The *dst\_ton* and *dst\_npi* should be assigned to the default values. The source address can be in numeric or alphanumeric format. To indicate a numeric source address, the *src\_ton* must have the value 0x01. On the other hand, to indicate an alphanumeric format, the *src\_ton* must be assigned to the value 0x05. The *src\_npi* shall always be set to default value.

If the source address is not specified (i.e. assigned the NULL string), both *src\_npi* and *src\_ton* must be assigned to the default values and the system will use the default originator.

## 8. Pricing

Please, note that the price of each MT varies according to the destination country or the parameters used (source address, delivery receipt, ...). For more details, please refer to <http://www.lleida.net/en/operator-services>.

## 9. Operational guidelines

Every ESME bounded to the Lleida.net SMPP server MUST be in conformance with the following guidelines:

- The only valid bind method is *BIND\_TRANSCEIVER*.
- It is important to recall that a SINGLE bind is ALLOWED per a pair of account and IP address.
- The system allows only one connection per server for each account. If the server receives a bind PDU for an account which is already logged on that server, the server will issue a *ESME\_RALYBND* error and the client must avoid reconnecting.
- The client should try to reconnect when a disconnection occurs due to networking issues. However, the client application must left a period of 5 minutes between reconnections. Nevertheless, between each try, a period of 5 minutes MUST be left.
- The server sends *ENQUIRE\_LINK* PDU to verify that the connection is up, and the client MUST send the corresponding *ENQUIRE\_LINK\_RESP* PDU. The client may also send to the server *ENQUIRE\_LINK* commands for more robustness.
- The throughput is upper bounded at 100 SMS/second in order to provide a full well-functioning service.

## 10. Contact

Lleida Networks Serveis Telemàtics, S.A. offers SMPP support via the email account [smsnoc@lleida.net](mailto:smsnoc@lleida.net). For any technical issue, please write an email to this address and specify clearly your account information and the nature of the problem.



## Annexe

### VPN support

We offer the possibility to connect via VPN. The routers that can be used in both directions are the following:

Server ID	Host	IP
1,3	ipsec.lleida.net	194.149.74.1
5	ipsec2.lleida.net	194.149.73.1

### Secure Sockets Layer (SSL) support

Connection via SSL is available in both directions.