

Quriiri SMPP API

SMPP server provides a standardized way to send and receive SMS messages through a TCP/IP connection with the SMPP protocol. Server connections are setup by the customer service and in all cases basic information for setting up the connection is the client's IP address or address range. Supported protocol versions are 3.4 and 5.0.

Connection details

SMPP account information*

| | |
|-----------|------------------------|
| Host | smpp.<host>.quriiri.fi |
| Port | 2775 |
| System-ID | <system-id> |
| Password | <password> |

*Maximum number of connections is 1 per SMPP account (default).

IP-address restrictions

All logins to server are controlled also by IP-address restrictions. All IP-addresses or address ranges must be registered to SMPP server for successful connection. IP-addresses are bound to account.

Supported PDUs

| PDU types | |
|------------------|-----------------------|
| bind_transmitter | bind_transmitter_resp |
| bind_receiver | bind_receiver_resp |
| bind_transceiver | bind_transceiver_resp |
| enquire_link | enquire_link_resp |
| unbind | unbind_resp |

| | |
|--------------|-----------------|
| submit_sm | submit_sm_resp |
| deliver_sm | deliver_sm_resp |
| generic_nack | |

Enquire link (enquire_link)

It is recommended to use enquire link feature with a refresh interval of 60 seconds to keep the connection alive.

Sending messages

Sender Id

Every sent message must have a **Sender Id** set and below is described the supported combinations of TON and NPI parameter values for the **Sender Id**.

| Sender Id | | | | | Mobile terminal |
|----------------------------|-----------------------------|------------------|------------------------------------|----------|-----------------|
| Sent to SMPP server | Type Of Number (TON) | | Number Plan Indicator (NPI) | | |
| (00 +)3581234123412 | 0x00 | UNKNOWN | 0x01 | ISDN | +3581234123412 |
| (00 +)3581234123412 | 0x01 | INTERNATIONAL | Not relevant | | +3581234123412 |
| 01234123412 | 0x00 | UNKNOWN | 0x08 | NATIONAL | 01234123412 |
| 01234123412 | 0x02 | NATIONAL | Not relevant | | 01234123412 |
| 01234123412 | 0x03 | NETWORK_SPECIFIC | Not relevant | | 01234123412 |
| Alfanum | 0x00 | UNKNOWN | 0x00 | UNKNOWN | Alfanum |
| Alfanum | 0x05 | ALPHANUMERIC | Not relevant | | Alfanum |

Sender Id is defined with TON and NPI parameters.

- The maximum length of an alphanumeric **Sender Id** is 11 characters. Recommended characters for an alphanumeric **Sender Id** are: letters **a-z**, **A-Z** and numbers **0-9**.
- The maximum length for MSISDN Sender Id is 16 characters.

Destination number

| Destination number | | | | |
|---------------------|----------------------|------------------|-----------------------------|----------|
| Sent to SMPP server | Type Of Number (TON) | | Number Plan Indicator (NPI) | |
| (00 +)3581234123412 | 0x00 | UNKNOWN | 0x01 | MSISDN |
| (00 +)3581234123412 | 0x01 | INTERNATIONAL | Not relevant | |
| 01234123412 | 0x00 | UNKNOWN | 0x08 | NATIONAL |
| 01234123412 | 0x02 | NATIONAL | Not relevant | |
| 01234123412 | 0x03 | NETWORK_SPECIFIC | Not relevant | |

MSISDN format

| MSISDN | CC + NDC + SN |
|--------|-----------------------------|
| CC | Country code |
| NDC | National destination number |
| SN | Subscriber number |

More information of the MSISDN format can be found i.e. here: <https://en.wikipedia.org/wiki/E.164>

Throttling and Rate limit

Sending messages is limited with rate limiting. Every customer has a maximum value for sending messages within 1 second and the default value for that is 20 messages / second. If the value is exceeded and messages are throttled, the server returns the error

ESME_RTHROTTLED. If needed, the rate limit can be raised to a higher value by contacting the customer service.

Receiving messages

Message encoding

The default encoding used for mobile originated messages is GSM-7. If the message content contains characters not included in the GSM-7 table, USC-2 will be used.

Message PDU

Inbound messages will be delivered to your platform as "DELIVER_SM". The table below shows which parameters you will receive for each mobile originated SMS sent to your number.

| Parameter | Description |
|------------------|--|
| command_id | DELIVER_SM (0x05) |
| service_type | always NULL |
| source_addr_ton | Source address Type Of Number, will be INTERNATIONAL (0x01) for all mobile originated messages |
| source_addr_npi | Source address Number Plan Indicator, will be ISDN (0x01) for all mobile originated messages |
| source_addr | Source address (Number from which the message was sent) |
| dest_addr_ton | Destination address Type Of Number can be INTERNATIONAL (0x01), NATIONAL (0x02) or NETWORK_SPECIFIC (0x03) for Short code |
| dest_addr_npi | Destination address Number Plan Indicator, will always be ISDN (0x01) for TON INTERNATIONAL, NATIONAL (0x08) for TON NATIONAL or UNKNOWN (0x00) in all other cases |
| destination_addr | Destination address (Long Number or Short Code) |
| esm_class | always 0x00 |
| protocol_id | always 0x00 |

| | |
|-------------------------|---|
| priority_flag | always 0x00 |
| schedule_delivery_time | always NULL |
| validity_period | always NULL |
| registered_delivery | always 0x00 |
| replace_if_present_flag | always 0x00 |
| data_coding | Default SMSC_DEFAULT (0x00) for GSM-7 and, UCS2 for messages containing characters outside GSM-7 (0x08) |
| sm_default_msg_id | always 0x00 |
| sm_length | Message Length - number of characters in message |
| short_message | Message |

Examples

Inbound SMS sent to a Long Number

| Parameter | Example |
|------------------------|---------------|
| command_id | DELIVER_SM |
| service_type | NULL |
| source_addr_ton | 0x01 |
| source_addr_npi | 0x01 |
| source_addr | 3581234123412 |
| dest_addr_ton | 0x01 |
| dest_addr_npi | 0x01 |
| destination_addr | 3584321432143 |
| esm_class | 0x00 |
| protocol_id | 0x00 |
| priority_flag | 0x00 |
| schedule_delivery_time | NULL |

| | |
|-------------------------|-------------|
| validity_period | NULL |
| registered_delivery | 0x00 |
| replace_if_present_flag | 0x00 |
| data_coding | 0x00 |
| sm_default_msg_id | 0x00 |
| sm_length | 11 |
| short_message | Hello world |

Inbound SMS sent to a Short Code

| Parameter | Example |
|-------------------------|---------------|
| command_id | DELIVER_SM |
| service_type | NULL |
| source_addr_ton | 0x01 |
| source_addr_npi | 0x01 |
| source_addr | 3581234123412 |
| dest_addr_ton | 0x03 |
| dest_addr_npi | 0x00 |
| destination_addr | 18999 |
| esm_class | 0x00 |
| protocol_id | 0x00 |
| priority_flag | 0x00 |
| schedule_delivery_time | 0x00 |
| validity_period | 0x00 |
| registered_delivery | 0x00 |
| replace_if_present_flag | 0x00 |
| data_coding | 0x00 |

| | |
|-------------------|-------------|
| sm_default_msg_id | 0x00 |
| sm_length | 11 |
| short_message | Hello world |

Error Specification

Overview

This specification covers error codes related to the SMPP communication.

SMPP connection error codes

All returned PDU status codes are standard, which are described in https://smpp.org/SMPP_v3_4_Issue1_2.pdf chapter 5.1.3 command_status.

Messages states

Messages will have following states:

| Message state | Value | Description |
|---------------|-------|--|
| ENROUTE | 1 | Message is accepted for delivery at SMSC |
| DELIVERED | 2 | Message is delivered to mobile terminal |
| EXPIRED | 3 | Message validity period has expired |
| DELETED | 4 | Message has been deleted |
| UNDELIVERABLE | 5 | Message is undeliverable |
| UNKNOWN | 7 | Message is in invalid state |

The states are described in the SMPP Protocol Specification v3.4 Issue 1.2 chapter 5.2.28 message_state. The message state value is also attached in a SMPP Optional Parameter "message_state" value 0x0427 described in the SMPP Protocol Specification v3.4 Issue 1.2 chapter 5.3.2.35.

Encoding

Default SMSC encoding

| Data coding | |
|-------------|-------------------------------------|
| 0x00 | Default GSM 7 bit encoding |
| 0x01 | ASCII |
| 0x03 | ISO8859-1 (Latin-1) treated as UCS2 |
| 0x04 | Binary |
| 0x08 | UCS2/UTF-16BE |

Character encodings

Encoding for 7 bit ascii with GSM 03.38 extension: https://en.wikipedia.org/wiki/GSM_03.38

Encoding for ISO/IEC 8859-1 table, Latin-1: https://en.wikipedia.org/wiki/ISO/IEC_8859-1

Encoding for ASCII: <https://en.wikipedia.org/wiki/ASCII>

Revision history

| Version | Description |
|--------------------|-----------------|
| 1.0.0 , 23.04.2020 | Initial version |