Quriiri HTTP MO API

This document describes the Quriiri HTTP MO (Mobile Originated) messaging API version 1 (v1).

Receiving messages

The URLs where messages are forwarded as HTTP requests to, where they can be fetched from, the request types to use, and associated API keys and IP address restrictions are configured in the Quriiri web UI.

The Quriiri HTTP MO API has two major modes of operation: push and pull. In push mode, Quriiri makes an HTTP request for each message to a URL. In pull mode, messages are retrieved by submitting HTTP GET requests to Quriiri.

Message attributes

Attribute name	Description
sender	Message sender. International numbers have a + prefix followed by up to 15 digits, national ones / shortcodes with up to 15 digits, alphanumeric with max 11 characters.
sendertype	Sender type; MSISDN (international number), NATIONAL (national number / shortcode), ALNUM (alphanumeric). In the vast majority of cases, senders are in international form.
destination	Message destination number in international or shortcode format. International numbers have a + prefix followed by up to 15 digits, shortcodes up to 15 digits
text	Message text. Concatenated text messages are combined by quriiri. Binary messages are not combined, and for them text contains the hex encoded binary data.
udh	Optional user data header, hex encoded. For combined concatenated text messages UDH is not present; it is for other cases where it is available in Quriiri (mostly binary messages).
sendtime	Timestamp when the message was sent, as available to Quriiri. In absence of better information, set to when the message entered Quriiri.
status	Message status. For information about possible values and their descriptions, see the delivery statuses chapter.
statustime	Timestamp of the status, in ISO 8601 combined date+time format, including time zone designator.
flash	Optional, `true` if the message is a “flash” one.

Push mode

Security

Quriiri can push messages to HTTPS and HTTP URLs. While plain unencrypted HTTP is an option, we strongly recommend using HTTPS and resort to HTTP only if HTTPS support is not available in the system to be interfaced with us.

When using HTTPS in push mode, Quriiri verifies the certificate of the target system. This means that the certificate must originate from a trusted authority, and pass hostname and timestamp tests. If any of these fail, message forwarding fails.

Request types

Quriiri's HTTP MO push API supports the following request types:

JSON	HTTP POST, with UTF-8 encoded JSON data as request body. Invoked for POST requests with `Content-Type` HTTP header set to `application/json`.
POST	HTTP POST, with UTF-8 URL encoded form data as request body. Invoked for POST requests with `Content-Type` HTTP header set to `application/x-www-form-urlencoded`.
GET	HTTP GET, with UTF-8 URL encoded data in query string. It is not recommended to use this request type in production; it is mainly present to support systems for which the other request types are not an option as well as for quick tests.

Request examples

The following request examples forward a message with contents "H€llo, world!" sent to destination number +358400000001 by sender +358500000002.

JSON

In a nutshell:

- ✓ HTTP POST request
- ✓ `Content-Type: application/json`
- ✓ Data encoded like `{ "param1": "value1", "param2": "value2", ... }`
- ✓ Data character encoding UTF-8

```
POST / HTTP/1.1
Content-Type: application/json

{
    "sender": "+358500000002",
    "sendertype": "MSISDN",
    "destination": "+358400000001",
    "text": "H\u20acllo, world!",
    "sendtime": "2015-09-14T10:31:25Z",
    "status": "SENT",
    "statustime": "2015-09-14T10:31:25Z"
}
```

Note that JSON data in the example above is formatted and indented here for legibility, in actual requests it might not be.

POST

In a nutshell:

- ✓ HTTP POST request
- ✓ `Content-Type: application/x-www-form-urlencoded`
- ✓ Data encoded like `param1=value1&param2=value2&...`
- ✓ Data character encoding UTF-8 (before URL encoding)

```
POST / HTTP/1.1
Content-Type: application/x-www-form-urlencoded

sender=%2B358500000002&sendertype=MSISDN&destination=%2B358400000001&tex
t=H%E2%82%ACllo%2C+world%21&sendtime=2015-09-14T10%3A31%3A25Z&status=SEN
T&statustime=2015-09-14T10%3A31%3A25Z
```

GET

Same as POST, except form data in query string.

```
GET /?sender=%2B358500000002&sendertype=MSISDN&destination=%2B358400000001&text=H%E2%82%ACllo%2C+world%21&sendtime=2015-09-14T10%3A31%3A25Z&status=SENT&statustime=2015-09-14T10%3A31%3A25Z HTTP/1.1
```

Response

The only thing interpreted from push responses by Quriiri is the HTTP status code. It is recommended to send empty response contents.

HTTP response status codes and their interpretations:

200 to 399	Message successfully forwarded.
400 to 499	Message forwarding failed, will not be retried.
Others	Message forwarding failed, will be retried later up to 3 times.

Pull mode

The pull mode returns messages in oldest first order. Implementations should not make parallel requests to the API using the same API key, otherwise it is possible that some messages are returned more than once.

When fewer than the maximum number of messages are present in the response (see the n parameter below), it means that no more messages are available. In these cases, implementations should pause for some time before making the next request. If it is important that messages are delivered as soon as possible, the push mode is a more appropriate choice than pull.

Security

Quriiri HTTP pull MO API is available through HTTPS and HTTP. While plain unencrypted HTTP is an option, we strongly recommend using HTTPS and resort to HTTP only if HTTPS support is not available in the system to be interfaced with us.

All pull API requests must be authenticated. Authentication is based on API keys which can be managed in the Quriiri web UI. The API key must be sent with each request in one of the following:

Authorization HTTP header	`Authorization: apikey your-api-key-goes-here` (where your-api-key-goes-here is your API key)
apikey parameter	See description of this in pull request parameters below.

In addition to the API key, access to the pull MO API can be restricted by IP addresses. These are configured in the Quriiri web UI.

Request types

Quriiri's HTTP MO pull API supports the following request types:

GET	HTTP GET, with UTF-8 URL encoded data in query string.

Request parameters

Attribute name	Description
apikey	The MO pull API key. Either this or the Authorization HTTP header must be set.
n	Maximum number of messages to return in the response, 1..100, optional, default 10. Fewer than this number of messages may be returned if there are fewer than this number of messages available. When that happens, implementations should pause for some time before making the next request for messages.

Request example

```
GET /mo1/?n=50 HTTP/1.1
Authorization: apikey xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
```

Response

The pull response contains an UTF-8 encoded JSON object. It contains the following name/value pairs.

Name	Value
errors	An array of error objects, representing errors occurred while processing the request.
warnings	An array of warning objects, representing warnings occurred while processing the request.
messages	An array of message objects. Names and values for each object are the same as in the Message attributes table above.

Response example

The structure of the message objects is the same as for JSON push above.

Note that the < and > characters below are not present in actual responses, they are here only to mark placeholders that will be replaced by real data in actual responses.

```
Content-Type: application/json

{
    "errors": [
        {"message": "<error message>"}
        <...possibly more errors here...>
    ],
    "warnings": [
        {"message": "<warning message>"}
        <...possibly more warnings here...>
    ],
    "messages": [
        {
            "sender": "+358500000002",
            "sendertype": "MSISDN",
            "destination": "+358400000001",
            "text": "H\u20aclllo, world!",
            "sendtime": "2015-09-14T10:31:25Z",
            "status": "SENT",
            "statustime": "2015-09-14T10:31:25Z"
        }
        <...possibly more messages here...>
    ]
}
```

Delivery statuses

Delivery statuses in Quriiri MO messages are the following. Under normal circumstances only the SENT and RETRY statuses are used with MO messages.

Status	Description
CREATED	The message has been created and is being processed.
SENT	The message has been sent to/from Quriiri.
ACKED	The message is en route and has been acknowledged by a carrier.
FAILED	The message failed to deliver.
DELIVERED	The message has been delivered.
UNKNOWN	The status of the message is not known.
RETRY	The message delivery is being retried.

Revision history

Version	Description
1.1.0, 11.4.2016	Add pull mode
1.0.0, 23.9.2015	Initial version