MC Connect HTTP – technical specification

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Purpose of this document

This document covers complete specification of bi-directional proprietary HTTP-based protocol for transport of short messages (SMS) and delivery reports.

Features – content

I. Mobile originated message: T-mobile to Client (MO-AT) push
II. Application originated message: Client to T-mobile (AO-MT)
III. MT Billing
IV. Delivery reports

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I. Mobile originated message: T-mobile to Client (MO-AT)

For each one MO-AT message, MMR creates a HTTPS GET request (insecure HTTP is not supported). Short message is being „encoded“ into URI string. The request is being „sent“ to client's application with login and password via HTTP basic authentication.

Parameters description:

parameter	description	example
MO_MessageID	Unique message ID assigned by MMR. You have to check for duplicates!	EurotelCZ.M2MPSMS_0001a365
MO_Source	**Source number** (MSISDN) of the message.	+420602123456
MO_Destination	**Destination number** (shortcode) of the message.	9003030
MO_Timestamp	Message timestamp (SCTS). 14-digit format (YYYYMMDDhhmmss).	20120229235012
MO_Data	Type=SMS, SubType=Text **Message text**, UTF8 string, URL-encoded Type=SMS, SubType=Binary **Data payload**, hexdump Type=MMS *Not defined*	UTF8 string „Příliš%20žluťoučký%20kůň“ Hexdump: “00fc01AA” represents 4 octets 0x00, 0xfc, 0x01 and 0xaa
MO_Type	**Type of the message** SMS – text message MMS – multimedia message	SMS
MO_SubType	Format of MO_Data - 'Text' or 'Binary'	Text
MO_UDH	**User Data Header**, hexdump Contains binary sequence as hexdump.	The string „050003010201“ indicates 6 octets of UDH (0x05 0x00 0x03 0x01 0x02 0x01).
MO_PID	**Protocol ID** (integer, 0 … 255) Protocol identification according to GSM 03.40.	215

Example

```
https://content-
provider.eu/sms/receiver?MO_MessageID=EurotelCZ.M2MPSMS_0001a365&MO_Source=%2B420602123456
&MO_Destination=9003030&MO_Timestamp=20120229235012&MO_Type=SMS&MO_SubType=Text&MO_Data=Th
is+is+a+test+message
```

Client application responds with HTTP code "200", Content-Type: text/plain" and body in form:

- **`OK`** *client confirms receiving of the message*

or

- **`OK;warning - duplicate`** *client confirms with warning from duplicity check*

or

- **`OK;<parameters>`** *client confirms & sends a reply message directly*[1]

When the body text begins with "OK", message is considered as accepted, otherwise will be re-sent in a short interval (seconds).

When the body text begins with "OK;<parameters>", and at least MT_Data element is present, message is considered as accepted and direct reply (MT message) is sent. See „Direct Replies“ below.

Duplicity check – please read this paragraph carefully

[1] there is a possibility to reply offline, see further

The possibility of duplicate delivery of a message is natural phenomenon of HTTP-based message transport[2]. The only way to cope with this problem is application logic. Please consider having such a piece of logic in your SMS transport implementation. Thank you.

There is unique identification of each message you receive: MO_MessageID. It's assigned by MMR (length 8 to 60 characters, character set [A-Za-z0-9_:]. Client must store MessageID of each received message/report in some storage (say received_id_list) for future duplicity checks. When receiving messages, before pushing them to permanent storage or processing them, its MessageID must be checked against received_id_list.

If MessageID of received message **is found** in received_id_list, it's duplicate. Client application must

1. ignore the message (don't store to storage, don't push it to processing), but
2. send positive acknowledge (OK[3]), as when message is accepted,
3. send the same direct-reply as before (when using direct replies).

If MessageID of received message **is not found** in received_id_list, there is no problem. Client application must

1. push message to its permanent storage and/or processing code,
2. send positive/negative acknowledge (OK or Error) – depending of result of storage/processing.

Link supervision – connection testing

This (push) interface is regularly tested from T-mobile side. In case there is no MO traffic for at least 30 minutes, T-mobile may send the „enquire_link“ request to check whether the client's HTTP server is up. The http request contains one parameter:

parameter	description	example
enquire_link	regular connection testing	*no value*

and no SMS-releated parameters (MO_*).

The application is required to send at least 200 OK (on http level). Content (response) may contain anything, or nothing. After client's HTTP server sends HTTP 200 OK, the link is considered up.

Example

```
https://content-provider.eu/sms/receiver?enquire_link
```

Response:

```
HTTP/1.1 200 OK
```

Direct Replies

*Warning: Direct reply **may not** be used for statefull applications. The HTTP Response, as a bearer of reply message, doesn't guarantee successfull delivery[4]. Use with caution! Contact T-MOBILE support if you are not sure. Use indirect replies (see „application originated message“ below) if you are still not sure.*

Parameters are in form of http GET request. The Direct Reply may contain following parameters:

parameter	M/O	description	example
MT_Data	M	message text/data	Hello%20world.
MT_Type	O	type, 'SMS' (default) or 'MMS'	SMS
MT_SubType	O	subtype, 'Text' (default) or 'Binary'	Text
MT_DCS	O	data coding scheme[5]	245
MT_ReportRequest	O	0 … delivery report not requested (default) 1 … delivery report requested	0
MT_UDH	O	User data header	0605040B8423F0

[2] Why? Imagine this: Client sends message to server, server receives it, sends positive response, but the response is lost. Server has the message received successfully. Client sees no reponse – times out. Client considers that message delivery failed and re-send the same message. Server receives the same message again.

[3] with „warning – duplicate“ information

[4] The retry-on-timeout mechanism on MMR side may trigger duplicate messages when http response is lost

[5] MT_DCS - if you use characters from ASCII (GSM7), don't use this parameter in AO message

parameter	M/O	description	example
MT_Billing_Bill	O	0 … set zero MT-billing code (subscriber receives message for free) 1 … set non-zero MT-billing code (subscriber is charged while receiving the message) (default) *(applicable in selected countries/operators only)*	1

(M)andatory, (O)ptional

Example: (`MT_Type=SMS&MT_SubType=Text&MT_Data=This+is+a+reply+message`)

See „Application originated message“ for details.

Client-side implementation example

The sample PHP script (receiver.php) for receiving MO messages looks like:

```
<?php
    /*
     * © T-Mobile Czech Republic a.s. 2005-2010
     * Sample PHP script for receiving MO-AT SMS for "SMS connect" service (with no direct reply)
     *
     * -- NOT FOR PRODUCTION USE -- This is an example
     */

    header('Content-type: text/plain');

    /* (1) Client must check for repeated message - duplicity check */
    if ( "$_REQUEST[MO_MessageID] found in my_received_id_list, 30 days back" )
    {
        echo "OK;warning - duplicate\n";    /* confirm but don't process the message */
    }
    else
    {
        /* (2) Client should store the message into a file, database or other permanent storage */
        if ( "message stored successfully" )
        {
            echo "OK\n";                    /* confirmation to MMR */
        }
        else
        {
            echo "Error - <some error description or whatever>\n";
                                            /* MMR will re-send the same message */
        }
    }
?>

== Received message ==
Identification: [<?= $ REQUEST[MO MessageID] ?>]
Sender: [<?= $_REQUEST[MO_Source] ?>]
Receiver: [<?= $_REQUEST[MO_Destination] ?>]
Message body: [<?= $_REQUEST[MO_Data] ?>]

== SMS dump ==
<?php var_export( $_REQUEST ) ?>
```

Connection parameters (bi-directional push interface)

The per-client, per-service connection parameters:

item	example value	assigned by
MO-AT		
URL (MMR side)	https://content-provider.eu/sms/receive/	Client
http-basic username	T-mobile	Client
http-basic password	Kxxyt53jSDr.44	Client
AO-MT		
URL (MMR side)	https://sms6.t-mobilecz.com/mmr4/mo_pull	T-mobile
http-basic username	ServiceXyz90030	T-mobile
http-basic password	jeCsf29976	T-mobile

II. Application originated message: Client to T-mobile (AO-MT)

Sending bulk SMS/Replying to Premium SMS

Client application sends messages via http request GET, authenticating itself with login and password via HTTP basic authentication.

For each one Application Originated message, client application creates a HTTP(S) GET request. Short message is being „encoded“ into URI string. The request is being „sent“ to MMR with login and password via HTTP basic authentication.

HTTP request elements

parameter	M/O	description	example
MT_Source	O	**Source number** (shortcode) of the message.	9003030
MT_Destination	M	**Destination number** (MSISDN) of the message. See also: „OP:<OpID>“ in response-line.	+420602123456
MT_Data	M	Type=SMS, SubType=Text **Message text**, UTF8 string, URL-encoded Type=SMS, SubType=Binary **Data payload**, hexdump Type=MMS *Not defined*	UTF8 string „Příliš%20žluťoučký%20kůň“ Hexdump: “00fc01AA” represents 4 octets 0x00, 0xfc, 0x01 and 0xaa
MT_Type	O	**Type of the message** SMS – text message (default) MMS – multimedia message	SMS
MT_SubType	O	Format of MT_Data - 'Text' (default) or 'Binary'	Text
MT_RefID	O	MO_MessageID value of related MO message (required for MT billing services)	EurotelCZ.M2MPSMS_0001a365
MT_DCS	O	data coding scheme[6]	245
MT_ReportRequest	O	0 … delivery report not requested (default) 1 … delivery report requested	0
MT_UDH	O	**User Data Header**, hexdump Contains binary sequence as hexdump. Useful for concatenated messages.	0605040B8423F0
MT_Billing_Bill	O	0 … set zero MT-billing code (subscriber receives message for free) 1 … set non-zero MT-billing code (subscriber is charged while receiving the message) (default) *(applicable in selected countries/operators only)*	1
MT_ValidityPeriod	O	The *MT_ValidityPeriod* indicates the **expiration time**, after which the SMSC **stops delivery attempts** on message. Such a message will be discarded, when not (yet) delivered at VP time. The corresponding (EXPIRED) delivery report is returned back. The *MT_ValidityPeriod* is specified as absolute 14-digit timestamp (YYYYMMDDhhmmss), local time. There are limitations: • minimum: VP must be at least 15 minutes in future. If not, MMR will adjust the VP to now+15min and the warning is returned. • maximum: VP must not exceed 7 days in future. If the specified VP exceeds	20150228090807

[6] MT_DCS - if you use characters from ASCII (GSM7), don't use this parameter in AO message

parameter	M/O	description	example
		now+7d, it's adjusted by MMR and the warning is returned.	

(M)andatory, (O)ptional

HTTP response format

MC system responds with HTTP code "200", Content-Type: text/plain" and body. The very first line of response body is defined; any additional line(s) should be ignored.

In the response-line, one of 3 replies may occur:

- **`OK;<MC_MessageID>;<RecD>[;OP:<OpID>][;optional human-readable text]`**
  - OK … fixed value (indicates success).
  - MC_MessageID … unique message identifier assigned by MMR (length 8 to 60 characters, character set [A-Za-z0-9_:].
  - RecD … recommended minimum delay before submitting next message (miliseconds); by obeying this recommended delay, you won't reach the 'THROTTLING-ACTIVE' (see below).
  - OpID … numeric identification of destination operator (1-65535) as determined from MT_Destination by MMR's routing table and NP database; presence of this element is configurable per client; the value is country- and installation-specific.
- **`REJECT;<reason of rejection>`**
  - Message rejected permanently by MMR (protocol error/malformed message); do not try to re-send such a message. See <reason of rejection> for details.
- **`ERROR;<error description>`**
  - MMR would like to accept such a message. Unfortunately, there was a temporary indisposed conditions causing the message was not stored. Please re-send the same message again. Please wait at least **30 seconds** before.
- **`THROTTLING-ACTIVE;<RecD>[;optinal human-readable text]`**
  - Message not accepted – maximum throughput exceeded. Please re-send the same message again. You should **wait spacified amount of miliseconds** (see RecD) before re-sending, otherwise the message will be rejected again.
  - RecD … recommended minimum delay before re-submitting the same message (miliseconds).

Example – simple MT message

https://mmr.t-mobilecz.com/mmr/send?MT_Source=9003030&MT_Destination=%2B420602123456&MT_Type=SMS&MT_SubType=Text&MT_Data=This+is+a+test+message:%C5%BDlu%C5%A5ou%C4%8Dk%C3%BD%20k%C5%AF%C5%88%20ti%C5%A1e%20%C5%99eht%C3%A1%20@.-,

Explanation: this http request represents text message „T-MOBILE testing message:Žluťoučký kůň tiše řehtá @.-,“ from shortcode 9003030 to MSISDN +420602123456.

Example – response

`OK;HbxPSMS_00000a84;470ms;OP:208`

Explanation: this response confirms that the above message was accepted with identification HbxPSMS_00000a84 and recommended minimum delay before submitting next message is 470 miliseconds. The message's destination number (+420602123456) is national operator number 208.

Connection parameters (bi-directional push interface)

The per-client, per-service connection parameters:

item	example value	assigned by
MO-AT		
URL (MMR side)	https://content-provider.eu/sms/receive/	Client
http-basic username	T-mobile	Client

item	example value	assigned by
http-basic password	Kxxyt53jSDr.44	Client
AO-MT		
URL (MMR side)	https://sms6.t-mobilecz.com/mmr4/mo_pull	T-mobile
http-basic username	ServiceXyz90030	T-mobile
http-basic password	jeCsf29976	T-mobile

MT_UDH

- MT_UDH must contain binary-as-hexdump. The string „050003010201“ indicates 6 octets of UDH (0x05 0x00 0x03 0x01 0x02 0x01).

Concatenated messages

To send concatenated (long) SMS messages you can use parameter MT_UDH:
MT_UDH must be in this format: 050003DDXXYY, where:

- 050003 is fixed part
- DD: 01-FF, CSMS reference number, must be same for all the SMS parts in the CSMS
- XX: 01-FF, total number of parts concatenated message.
- YY: 01-FF, this part's number in the sequence

For sending long (concatenated) messages, you can set parameter MT_UDH and split long message by 153 characters. Example: message with 200 characters will be splitted to the two parts, one with 153 characters, second with 47 characters.

Example – concatenated (long) MT message

Part 1 of 2
Request (client → T-MOBILE)

```
https://mmr.t-
mobilecz.com/mmr/send?MT_Source=%2B420234567890&MT_Destination=%2B494617123456&MT_Type=SMS
&MT_SubType=Text&MT_UDH=050003010201&MT_Data=This+is+a+test+message+first+part+with+153+ch
aracters........
```

Response (T-MOBILE → client)
MC system responds with HTTP code "200", Content-Type: text/plain" and body in form:

```
OK;ExampleService90030xx_00de5012;4978ms
```

Part 2 of 2
Request (client → T-MOBILE)

```
https://mmr.t-
mobilecz.com/mmr/send?MT_Source=%2B420234567890&MT_Destination=%2B494617123456&MT_Type=SMS
&MT_SubType=Text&MT_UDH=050003010202&MT_Data=This+is+a+test+message+second+part
```

Response (T-MOBILE → client)
MC system responds with HTTP code "200", Content-Type: text/plain" and body in form:

```
OK;ExampleService90030xx_00de5013;9971ms
```

- MC_MessageID for both messages will be different
- Each part of concatenated message will be billed as single message

III. MT Billing

There are two main branches of billing style on the field of Premium Short Message Services.

- MO billing: mobile subscriber is charged while sending MO. Mobile subscriber receives MT for free. This scheme is considered as default for Premium SMS.
- MT billing: mobile subscriber sends MO with no extra fee[7]. Mobile subscriber is charged while receiving MT.

The MT billing consists of two different use cases.

1. One-shot service: Mobile subscriber sends MO; low amount (one, typ. up to 5) MT messages follows.
2. Subscription service: Mobile subscriber orders the service, and confirms the subscription. Limited amount of MT (charged) messages is sent to subscriber within unlimited time frame.

Note for Czech Republic: Whole process of ordering service billed via MT messages and delivering MT billed messages must fulfill requirements listed in APSMS codex (normative for all local mobile operators and content providers). See http://www.premiumservices.cz/, **Kodex Premium SMS** v4.2[8] [english].

SMS flow description – one-shot service

Client sends MT billed messages via MMR. Messages should be sent as ordinary MT messages (see *„Application originated message: Client to T-mobile"*), with some exceptations:

- The source number (MT_Source) should be used consistently according to the price.
  - For billed premium MT messages, use 8-digit shortcode as MT_Source in form 90xyyzzz; zzz is end-price incl. VAT in CZK (90030005 → 5,00 CZK, 90230095 → 95,00 CZK)
  - For non-billed (non-premium) MT messages, use 5-digit shortcode as MT_Source.
- You should always request a delivery report (MT_ReportRequest=1) to know delivery status of message. Successfull submit of billed MT message does not guarantee that end-user is really billed. The message may be encountered as billed only after positive delivery report (with StatusCode=0; see below).

SMS flow description – subscription service, Czech Republic

The service providing entity (client) will need a "table of subscribed numbers". T-MOBILE recommends following layout of the table:

msisdn	reference
MSISDN of subscribed end-user. Copy of MO_Source from "START" command.	*Unique ID of subscription.Copy of MO_MessageID*

Example of "table of subscribed numbers"

msisdn	reference
+420601234567	GsmCZ.M2M_0001baaa
+420601234599	GsmCZ.M2M_000203dc
…	...

- on new subscription (mtbill_code=START), client inserts the record into table of subscribed numbers
  - in case of duplicity of MSISDN, the "reference" must be updated
- on subscription end (mtbill_code=STOP), client removed the record by MSISDN

Process

1. Enduser sends SMS to a five digit shortcode[9] serviced by MMR[10]. SMS text begins with a keyword assigned to client. Provider (MC) must allow enduser to set maximum count of MT billed messages (for one service) per day, which he (she) is willing to receive. (This message is not considered as a Premium rate MO SMS. More info in

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7 the MO message is billed as ordinary on-net message according to subsriber's tariff

8 version 4.2 valid as of 9/2009; check for newer version(s)

9 Czech Republic

10 MT billing subscription service may also be started by http request from client's application (end-user don't have to send 1st MO SMS); see „MTBSS API" below.

enclosed APSMS codex.)

- MMR generates the „challenge“ - MT SMS with description of client's service and direction how to confirm the service order (reply „YES <servicename>“ to start subscription). Text of this message is strictly declared by Codex. This message is free of charge for enduser.
- MMR creates a HTTP GET request to client application, authenticating itself with login and password via HTTP basic authentication, with **info** about client's request. This kind of request will be generated for all MO messages sent to five digit prefix with client's keywords in SMS text.

Parameters description – the INFO command:

parameter	description	example
See „Mobile originated message: T-mobile to Client“ for common parameters		
MO_SpecialInfo	the fixed string "mtbill_code=info": informs client about end-user's (not yet confirmed) request	mtbill_code=info

Example:

```
https://client.com/fmc/receive?MO_SpecialInfo=mtbill_code%3Dinfo&MO_Source=%2B42060
2123456&MO_Destination=90235&MO_Timestamp=20060329235012&MO_Type=SMS&MO_MessageID=G
smCZ.PSMS_0001a365&MO_SubType=Text&MO_Data=Eur10
```

Client application responds with HTTP code "200", Content-Type: text/plain" and body in form:

```
OK;
```

When the body text begins with "OK", message is considered as accepted, otherwise will be resend in a short interval (seconds).

2. Enduser sends „confirmation“ - second SMS with the text „ANO[11] <servicename>“, example: „ANO Eur10“, to the same 5-digit shortcode serviced by MMR. By sending this message enduser confirms order of subscription service. From now, client application may send MT billed messages to enduser's MSISDN.

On start of subscription, MMR sends the „START“ command to the client. MMR creates a HTTP GET request to client application, authenticating itself with login and password via HTTP basic authentication. Parameter "MO_SpecialInfo" will be set to mt_billcode=START. By this request MC confirms that client is allowed to send MT billed messages to enduser's MSISDN.

Parameters description – the START command:

parameter	description	example
See „Mobile originated message: T-mobile to Client“ for common parameters		
MO_SpecialInfo	the fixed string "mtbill_code=START": informs client about start of subscription of corresponding MSISDN (MO_Source)	mtbill_code=START
MO_RefID	Reference of the started subscription. Used as MT_RefID for MT billed messages.	GsmCZ.EMI_000dd595

Example:

```
https://client.com/fmc/receive?MO_SpecialInfo=mtbill_code%3DSTART&MO_Source=%2B4206
02123456&MO_Destination=90235&MO_Timestamp=20060329235012&MO_Type=SMS&MO_MessageID=
MTBA_00010aaa&MO_RefID=GsmCZ.EMI_000dd595&MO_SubType=Text&MO_Data=Ano+eur10
```

Client's application responds with HTTP code "200", Content-Type: text/plain" and body in form:

```
OK;
```

Client must store the msisdn (MO_Source) and reference (MO_RefID) in the "table of subscribed numbers". On duplicate MSISDN, the reference must be updated.

3. Client sends MT billed messages via MMR system until the Subscription is stopped. Messages should be sent as

[11] Yes

ordinary MT messages (see *„Application originated message: Client to T-mobile“*), with some exceptations:
- The source number (MT_Source) should be used consistently according to the price. For billed premium MT messages, use 8-digit shortcode as MT_Source.
  - 8-digit shortcode in form 90xyyzzz; zzz is end-price incl. VAT in CZK (90030005 → 5,00 CZK)
- The MT_RefID must contain the reference string from "table of subscribed numbers“.
- See „Delivery of billed AO-MT messages“ (below) also.

4. Subscription service may be stopped by following means:
   - Enduser sends message with text “STOP”, “STOP ALL”, “STOP <keyword>”.
   - Enduser’s LifeTime limit of Service ran out.
   - Three consecutive MT billed messages were not delivered (negative delivery report)

   On stop of subscription, MMR sends the „STOP“ command to the client. MMR creates a HTTP GET request to client application, authenticating itself with login and password via HTTP basic authentication. Parameter “MO_SpecialInfo” will be set to mt_billcode=STOP. Client application responds with HTTP code "200", Content-Type: text/plain" and body in form: “OK“; Client application must remove the entry (by MSISDN) from table of subscribed numbers. After this event no MT billed SMS will be delivered to enduser’s MSISDN.

   Parameters description – the STOP command:

parameter	description	example
See „Mobile originated message: T-mobile to Client“ for common parameters		
MO_SpecialInfo	the fixed string “mtbill_code=STOP”: informs client about end of subscription of corresponding MSISDN (MO_Source)	mtbill_code=STOP

   Example:
   https://client.com/fmc/receive?MO_SpecialInfo=mtbill_code%3DSTOP&MO_Source=%2B420602123456&MO_Destination=90235&MO_Timestamp=20060329235012&MO_Type=SMS&MO_MessageID=GsmCZ.M2M_0001baaa&MO_RefID=GsmCZ.EMI_000dd595&MO_SubType=Text&MO_Data=LiteTimeLimit+ran+out
   Now, the subscription for +420602123456 (Reference GsmCZ.EMI_000dd595) ends.

Delivery of billed AO-MT messages

Note: *Successfull submit of billed MT message does not guarantee that end-user is really billed. The message may be encountered as billed only after positive delivery report (with StatusCode=0; see below).*

Each billed (premium) MT SMS from client will be internally authorized by MMR (subscription service).

If MT billed SMS pass the authorization:
MC system creates a HTTP GET request to client application, authenticating itself with login and password via HTTP basic authentication. Parameter “MO_SpecialInfo” will be set to mt_billcode=ACK.
Client application responds with HTTP code "200", Content-Type: text/plain" and body in form “OK“.

If MT billed SMS does not pass the authorization:
MC system creates a HTTP GET request to client application, authenticating itself with login and password via HTTP basic authentication. Param “MO_SpecialInfo” will set to mt_billcode=NACK.
Client application responds with HTTP code "200", Content-Type: text/plain" and body in form “OK“.

MTBSS (MT billing subscription service) API description

Client-to-server specification:
Initialization (order) of subscription service via HTTP request:

1. Client's application gets MSISDN of end-user (via web interface etc.)
2. Client's application sends uHTTP request to T-MOBILE application with username+password:
   - http://servicename:password@t-mobile-server/mmr-mtbss-api/mtbss-api?arguments
3. T-MOBILE application sends HTTP response of type text/plain

a. MTBSS:OK;refId=<reference_string>
   - message accepted
b. MTBSS:ERROR;<error description>
   - mesage rejected

4. Client's application should handle HTTP-level timeout and/or application error (MTBSS:ERROR) and re-try after configurable amount of time (minimum 120s)

argument	value type	example
Login	per-client	FoobarSubscription25CZK
Password	per-client	bigs3cret
sourceNumber	dynamic (from web-input)	+420722011456
destinationNumer	per-service	90030
messageText	per-service	FOOBAR

Examples:
http://FoobarSubscription25CZK:bigs3cret@t-mobile-server/mmr-mtbss-api/service-start?messageText=FOOBAR&destinationNumer=90030&sourceNumber=%2B420722011456

http://BadooSubscription90030CZK30:bigs3cret@t-mobile-server/mmr-mtbss-api/service-start?messageText=BADOO&destinationNumer=90030&sourceNumber=%2B420722011456

IV. Delivery reports

Sending delivery reports from T-MOBILE message router to the client's application

The delivery reports are releated to AO-MT messages. Delivery report informs asynchronously whether (when) MT message was (was not) delivered to the mobile station. Please check with your T-MOBILE contact person whether you have delivery reports active on your connection.

One MT message may trigger several delivery reports. There may be some intermadiate reports; there is exactly one final report.

Note: Client's application should request the delivery report with MT_ReportRequest=1 parameter while sending AO-MT message.

MC system creates a HTTP GET request to client application, authenticating itself with login and password via HTTP basic authentication.

Parameters description:

parameter	presence	description
DN_MessageID	M	identification of AO message releated to this delivery report
DN_Source	O	source number, ie. '+420602123456' (copy of MT_Destination from AO message)
DN_Destination	O	destination number, ie. '9003030' (copy of MT_Source from AO message)
DN_StatusCode	M	Result of delivery
DN_StatusText	O	Human-readable description of message status
DN_Timestamp	M	Timestamp of message status

presence: (M)andatory, (O)ptional

Result of delivery (DN_StatusCode) - overview

DN_StatusCode	description
-128 … -1	intermediate status (additional delivery report will follow)
0	final status; message was delivered at *DN_Timestamp*
1 … 9	final status; message was not delivered
10...127	final status; delivery status is not known

Result of delivery (DN_StatusCode) - details

DN_StatusCode	final	description (message was ...)
-3	n	accepted by PLMN operator (used for MT-billing)
-2	n	accepted by PLMN operator's subsystem on transport-level
-1	n	*reserved for internal use*
0	y	delivered to mobile station
1	y	not delivered
2	y	rejected by PLMN operator (used for MT-billing)
3	y	expired on SMSC
4	y	rejected by MMR/MTBA (used for MT-billing)
10	y	accepted by PLMN operator on transport-level (not real relivery report)
11	y	expired – no report from PLMN operator within three[12] days

[12] The timeout (3 days) may vary per installation, per service

Examples – successfull deliveries

```
DN_StatusCode       0
DN_StatusText       Message delivered
DN_Timestamp        20090730140447
DN_MessageID        ClientACCF_001a9377
DN_Source           +420736302320
DN_Destination      +420737000111
```

Message from 736302320 (virtualSC number) to (+420)737000111 has been delivered at 14:04:47.

```
DN_StatusCode       0
DN_StatusText       Zprava byla dorucena - ISUC_005 - Message delivered
DN_Timestamp        20090730140346
DN_MessageID        ClientXPPS_001a9372
```

Message ClientXPPS_001a9372 has been delivered at 14:03:46 [13].

```
DN_StatusCode       0
DN_StatusText       SUCCESSFUL_DELIVERY
DN_Timestamp        20091005120225
DN_MessageID        XdcSubscription90030CZK30_000169ba
DN_Source           90030030
DN_Destination      +420775773773
```

Message from 90030030[14] *to (+420)775773773 has been delivered at 12:02:25.*

Examples – failed deliveries

```
DN_StatusCode       1
DN_StatusText       Message delivery failed with error code 000
DN_Timestamp        20090730130003
DN_MessageID        ClientXPPS_001a8f28
DN_Source           +420736302320
DN_Destination      +420732000000
```

Message id ClientXPPS_0a18f28 has not been delivered; see DN_StatusText for operator-specific cause.

```
DN_StatusCode       1
DN_StatusText       Zprava nebyla dorucena  - ISUC_006 - Message delivery failed
DN_Timestamp        20090730125101
DN_MessageID        ClientXPPS_001a92f0
DN_Source           1991023
```

Message id ClientXPPS_0a18f28 has not been delivered; see DN_StatusText for operator-specific cause.

```
DN_StatusCode       1
DN_StatusText       No Connector found for Source [] and Destination [+42076583700]
DN_Timestamp        20090730124939
DN_MessageID        ClientXPPS_001a92a0
DN_Source
DN_Destination      +42072583700
```

Message id ClientXPPS_0a18f28 has not been delivered; dropped by MMR because of missing A-number (empty DN_Source).

```
DN_StatusCode       2
DN_StatusText       rejected on transport-level (Connector.SMPP rejected): (Code 64)
MSISDN has not enough credit.
DN_Timestamp        20091001112233
DN_MessageID        AqSubscription90030CZK30_0001696d
```

Message id AqSubscription90030CZK30_0001696d (MT billing) has not been delivered; rejected by operator – pre-paid subscriber has not enough credit.

---

[13] the source and destination number elements are optional

[14] MT billing, price level 30,00 CZK

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V. History of changes

date	ver	subject
2005-06-07	1.0	Document created.
2009-09-17	1.6	Delivery reports.
2009-09-18	1.7	UDH and concatenated messages.
2009-10-05	1.8	Delivery reports: StatusCode adjustment. Document formatting.
2009-10-14	1.9	MTBSS (MT billing subscription service) API description.
2010-01-04	2.01	MT_ValidityPeriod, MT_Priority
2010-01-15	2.02	The „pull“ interface for MO-AT
2010-02-15	2.03	Link supervision – connection testing; document re-formatting for export
2010-03-31	2.04	Detailed examples in „Application originated message (AO-MT)“ section
2010-04-21	2.05	Reports – new statuscode „11“ (no report from PLMN operator in 3 days)
2010-10-07	2.07	MT billing (MT_Billing_Bill) default value changed from 0 to 1
2010-11-24	2.08	Added optional OpID to http repsponse format
2010-12-02	2.09	Changed „t-mobile sends http GET/POST“ to „t-mobile sends http GET“ because POST is never used; removing „method=GET“ configuration from etc/clients/*.ini.
2011-03-25	2.10	Removed section MO-AT pull
2012-01-02	2.11	DN_Creator_Name and DN_RefID no longer in AO delivery reports
2012-04-06	2.12	HTTPS is required on client side