



Web API Connectivity Guide

Version 3.4

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1 Overview of the HTTP APIs

The COMMZGATE Portal features a set functions exposed as a Web Service using RESTful HTTP APIs. The APIs defined in this document are for applications or services to make use of the Web Service over the Internet or private leased network.

To make use of the Web Service APIs, you require an account from COMMZGATE as well as the IP address of the COMMZGATE Web Service on the Internet.

The **COMMZGATE Web Service** URL that you will call will be on the form of:

```
http://gateway3.commzgate.net/gateway/SendMsg
```

OR

```
http://gateway3.commzgate.net:8081/gateway/servlet/mmg.HTTPapi.SendMsg
```

Please contact your account manager if you have not received your account credentials and gateway address.

HTTP Methods:

The POST method may be used for the APIs unless explicitly stated otherwise.

There are two categories of APIs:

A) MT (Mobile Terminate) APIs involve sending messages from the **COMMZGATE Web Service to Mobile Device**. The APIs are:

- 1) Send Message
- 2) Check Balance (Tokens are deducted upon each successful MT request)

B) MO (Mobile Originate) APIs involve receiving messages from the **Mobile Device to COMMZGATE Web Service**.

There is currently only one API:

- 1) Receive Message

For MT and Application APIs, HTTP POST is initiated by the External Application and directed to the COMMZGATE Web Service.

For MO APIs, HTTP POST is initiated by the COMMZGATE Web Service and directed to the External Application.

This document defines the APIs, their parameters, and return values. Note that parameter names are **case sensitive**. Also, none of the parameter values that are passed in should contain the pipe “|” character. The standard HTTP encoding rules must be used when passing text as parameters.

2 MT API Details

2.1 Send Message

URL	<COMMZGATE Web Service IP Addr:Port>/gateway/SendMsg
Description	Sends a message to the specified mobile number.
HTTP Method	POST

Field	Description
ID	<p><i>Type=String, Length=50</i></p> <p>External Application ID. Pre-assigned by the COMMZGATE Web Service.</p>
Password	<p><i>Type=String, Length=50</i></p> <p>Authorization password. Pre-assigned by the COMMZGATE Web Service.</p>
Mobile	<p><i>Type=String, Length=20</i></p> <p>Message recipient mobile phone number (single number, includes country code, excludes “+” sign) e.g. 6615025534</p>
Type	<p><i>Type=Char, Length=1</i></p> <p>Message Content Type: “A” – ASCII “H” – Hexadecimal “U” – Unicode</p> <p>It is possible to mix Type A characters and Type U characters within a single message; in this case, you must set Type=U, and treat the message as a Type U message.</p> <p>Note: For message with Type U , send the message body as double-byte UTF-16</p>

<p>Message</p>	<p><i>Type=String, Length=Variable (see below)</i></p> <p>Message Content If Type = "A", not more than 160 characters If Type = "H", not more than (280 – Length of UserHeader field) HEX characters If Type = "U", not more than 70 characters</p>
<p>Sender</p> <p>Optional</p>	<p><i>Type=String, Length=11 (max)</i></p> <p>Alphanumeric Originating Address Also know as Number Masking</p> <p><i>* IMPORTANT: To prevent spoofing of Number Mask values, we require you register Number Mask values you wish to use with us, else using this option will result in your message not being delivered. Number Mask registration charges apply</i></p>
<p>Test</p> <p>Optional</p>	<p><i>Type=Char, Length=1</i></p> <p>Test Indicator: "Y" – This is a test message (will be sent via a test connection, which may be a GSM modem, depending on what the COMMZGATE Web Service administrator has configured as the test connector) "N" – This is NOT a test message</p> <p>If this field is not present in the API request, the COMMZGATE Web Service will treat the message as an actual message, NOT a test message.</p>
<p>UserHeader</p> <p>Optional</p>	<p><i>Type=String, Length=not more than (280 – Length of Message field) HEX characters.</i></p> <p>This is the value of the User Data Header that is used for certain messages types, such as Logos and Ring-tones. This field will be ignored if field Type = 'A' or 'U'. This field should only be used, if necessary, when Type = 'H'.</p>

<p>OperatorID</p> <p>Optional</p>	<p><i>Type=String, Length=20 (Case-Sensitive)</i></p> <p>Specifying this field will override the default MT routing. The exact spelling of this value must be obtained from the COMMZGATE Web Service administrator.</p> <p>In the event that parameter 'Test' has also been configured as 'Y', then this parameter will be ignored. I.e. 'Test' parameter takes precedence over 'OperatorID'.</p> <p>* IMPORTANT: You must have an Operator value assigned to you by you account manager in order to use this option.</p>
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Return String	Description
Success Code	The success/error acknowledgement (from the COMMZGATE Web Service) of the API call. Defined in Return Codes List.
Message ID	This is a unique message identifier that is generated.

A- Example for English Message

ID=crmsystem100

Password= qrxxy53tohh88

Mobile=60172146688

Type=A

Message=Happy+Birthday+to+you

The following return string is returned:
01010, API_01_118334327757067122

The return string values are mapped as follows:

Result Code 01010, API_01_118334327757067122 (Success)

B- Example for Chinese Message

(To send the Character 人)

ID=crmsystem100

Password= qrxxy53tohh88

Mobile=60172146688

Type=U

Message=4EBA

The following return string is returned:

01010, API_01_118334327757067122

The return string values are mapped as follows:

Result Code 01010, API_01_118334327757067122 (Success)

C- Example for Binary Message

(To send a Nokia Ringtone)

ID=crmsystem100

Password= qrxxy53tohh88

Mobile=60172146688

Type=H

UserHeader=06050415810000

Message=024A3A51D195CDD004001B20550590610560558550548540820849
900000

The following return string is returned:

01010

The return string values are mapped as follows:

Result Code 01010, API_01_118334327757067122 (Success)

2.2 Send Long Concatenated Messages

The parameter “UserHeader” is used when sending special binary formatted message (melodies, pictures etc) or when concatenating multipart messages into 1 long message.

The data sent in the UserHeader corresponds to the User-Data-Header segment within Transport Protocol Data Unit (PDU) as defined in the GSM specifications (3GPP TS 23.040).

An example UserHeader for sending a long concatenated message is

```
0500030F0201
```

In this example UserHeader the first 3 Octets *050003* represent the standard identifier for a concatenated message:

05--User Data Header Length (5 octets)

00--Concatenated message (8-bit reference)

03--Information Element Data Length

The next 3 Octets are described as follows:

0F--Concatenated Message Reference. This is a modulo 256 number which remains the same for all segments composing a concatenated message.

02--Total Message Parts (value 0-255) . This number represents the number of segments composing the concatenated message.

01--Part Number of this Segment (value 0-255). The first segment of a concatenated message has a sequence number of 1. Value 0 is reserved.

Further examples of User Header settings can be obtained from each respective handset manufacturers' SMS specification documents. (eg. Nokia Smart Message FAQ)

As long as the required binary User Data Header info is submitted in the *UserHeader* parameter and the rest of the binary message body in the *Message* parameter, the SMS will be delivered as specified.

3 MO API Details

3.1 Receive Message

Whenever the COMMZGATE Web Service receives an SMS, it will look up its own Application Routing table to determine which application the SMS is to be forwarded to. Once this has been resolved, the COMMZGATE Web Service will post a HTTP request to the application and pass in argument values.

The application must have a web-component that is able to receive a **HTTP POST method call**. The URL path of the application's receiving component must be pre-registered with the COMMZGATE Web Service.

Field	Description
Mobile	The originating mobile number of the received message
Type	<p>Message Content Type: "A" – ASCII "H" – Hexadecimal "U" – Unicode</p> <p>This indicates the type of Message Content being received. For Type=U, the Message Content is in Unicode UTF-16 represented by Hex characters, 2 Hex characters per character. For a mixture of English and non-English content, the Type is set to U.</p>
SMTtype	<p>This parameter applies only if Type="H".</p> <p>The value of this field is taken as <destination port><originating port> in the User Data Header, according to the Nokia Smart Messaging specifications; some are shown below-</p> <p>VCARD → 23F40000 LOGO → 15820000 PICTURE → 158A0000 RINGTONE → 15810000</p>
Message	<p>Message Content</p> <p>If Type = "A", not more than 160 characters If Type = "H", not more than 280 HEX characters If Type = "U", not more than 280 HEX characters in UTF-16</p> <p>(URL-Encoded content)</p> <p>If the message is a Smart Message (e.g. ring-tone, logo etc),</p>

	Type will be set to H and the Message field will contain only the content (no header information) of the Smart Message. This will contain the ENTIRE Smart Message, since the COMMZGATE Web Service will perform the concatenation of the message parts.
Timestamp	The date-time that the message was received by the COMMZGATE Web Service. The format is YYYY-MM-DD hh:mm:ss
ServiceNum	This value specifies the Service Number / short-code / mobile number to which the SMS MO was sent. Note: This value is <i>not available</i> if the SMS MO was received via a GSM modem. If the SMS MO was received via a service provider (e.g. mobile operator, SMS Gateway), this value <i>may</i> be available subject to the specific service provider.
ConnID	This value specifies the unique ID of the Connector through which the COMMZGATE Web Service received the incoming message. The possible values of the ConnID must be obtained from the deployment architect of the system; only the deployment architect would know the ID of each connector that is available.
OperatorID	This value specifies the mobile operator / service provider that the Connector receives the incoming message from. Note that this is different from the ConnID in that there may be multiple Connectors for a single mobile operator / service provider. If you only need to know which mobile operator / service provider the message is from (and not the <i>specific connector</i>), then use this field.
RoutingProfile	This value is equal to the External Application ID that the COMMZGATE Web Service has been configured to forward/route the MO message to. This parameter is used when multiple External Applications actually receiving MO messages through a common receive path (URL), or common incoming message processing module. In such a case, this module can further breakdown which specific application to forward this message to, based on the RoutingProfile.

Example

Assuming the receive path of the application is:

202.22.123.5:8081/messagegateway/receive.jsp

The COMMZGATE Web Service receives an incoming SMS and determines that it is to be routed to this application. The COMMZGATE Web Service then calls a HTTP POST with the following details:

202.22.123. 5:8081/messagegateway/receive.jsp

Mobile=6598765432

Type=A

Message=Testing

Timestamp=2003-02-03 20:15:05

ServiceNum=1944367

Note: The COMMZGATE Web Service will expect an acknowledgement code 'OK' to be returned by the application, otherwise it will treat the message as undelivered and will either retry, or log the message as 'Undelivered'.

4 Message Delivery Notification

NOTE: This is an optional add-on feature available only with a Pro account

Whenever you successfully submit a message to the COMMZGATE Web Service, and the success code returned by the COMMZGATE Web Service only indicates the successful acceptance of your message attempt for subsequent delivery to the appropriate Mobile Operator the message is intended for. The Mobile Operator might subsequently accept this message or it might be rejected for one reason or another.

To find out the eventual status of the message submitted, you can either manually review the message status reports via the Customer Access Portal, or you can setup your application to receive the Delivery Notification automatically sent by the COMMZGATE Web Service via a HTTP POST.

4.1 Delivery Notification API details

The application must have a web-component that is able to receive a **HTTP POST method call**. The URL path of the application's receiving component must be pre-registered with the COMMZGATE Web Service. If you have already setup a web-component to receive MO messages from COMMZGATE Web Service, this same web-component must be setup to receive Delivery Notifications as well.

*Delivery Notification feature is optional and must be enabled for your account.

If you have already setup a Web Component to receive MO messages from COMMZGATE Web Service (see Section 3), the following are additional parameters fields that COMMZGATE Web Service will send as HTTP POST to you.

Field	Description
MsgID	The unique message ID for the message that was successfully submitted to the COMMZGATE Web Service. This message ID was returned by the COMMZGATE Web Service to your application as part of the success code. (See Section 2) The MsgID is used to identify the message for which the Status value is for.
Status	This is the Status of the messages that was submitted by you application earlier. Possible values are: SUCCESS STILL IN QUEUE ERROR- PREPAID BLOCK ERROR- NUMBER OUTPORTED

	ERROR- NUMBER INVALID ERROR- TELCO-SIDE ERROR
--	--

Example

Assuming the receive path of the application is:

202.22.123.5:8081/messagegateway/receive.jsp

The COMMZGATE Web Service then calls a HTTP POST with the following details:

202.22.123. 5:8081/messagegateway/receive.jsp

MsgID= API_01_118334327757067122

Status=SUCCESS

Note: On receiving the Delivery Notification, your application has to return a HTTP header 200. No other return acknowledgement from your application is necessary.

5 Premium Rate Charging

NOTE: This is an optional add-on feature available only with a Pro account

The COMMZGATE Web Service allows you to charge for mobile content, PIN codes and other digital products via mobile users' regular phone bills.

Field	Description
TariffCode	The Tariff charging code assign to you when you first setup your Premium Rate charging account

Example

Assuming the receive path of the application is:

202.22.123.5:8081/messagegateway/receive.jsp

The COMMZGATE Web Service receives an incoming SMS and determines that it is to be routed to this application. The COMMZGATE Web Service then calls a HTTP POST with the following details:

202.22.123. 5:8081/messagegateway/receive.jsp

Mobile=6598765432

Type=A

Message=Testing

Timestamp=2003-02-03 20:15:05

ServiceNum=1944367

Premium Rate charging is allowed for MT messages only.

Your service must also implement a 2-step confirmation process before the activation of the final charging message

Appendix A: List of Return Codes

Result Code	Description
01010	Successfully submitted Send Message request
01011	Invalid request format; check request format definition
01012	Unauthorized access; either the external application does not exist (based on ID), Password is invalid, or the request is being originated from a non-authorized IP address (the IP address of your application must be configured at the COMMZGATE Web Service)
01013	Internal System error; contact COMMZGATE
01014	Unable to route to mobile operator for the attempted mobile number. Contact COMMZGATE
01015	Insufficient balance. The balance for the external application is not enough to send the message.
01018	The mobile number attempted is blacklisted.
02010	Successfully submitted Add Keyword request
02011	Invalid request format; check request format definition
02012	Unauthorized access; either the external application does not exist (based on ID), Password is invalid, or the request is being originated from a non-authorized IP address (the IP address of your application must be configured at the COMMZGATE Web Service)
02013	System error; contact COMMZGATE Web Service system administrator.
02014	Not allowed: your application has been defined as a no-keyword application (all messages are forwarded to it, based on service number). Contact the COMMZGATE Web Service system administrator.
02015	The keyword you are trying to add already exists for your application.
02016	The external application has not been configured in the service number mapping table.
02017	The keyword you are trying to add already exists for another application that is linked to at least one of your service numbers.
03010	Successfully submitted Delete Keyword request.
03011	Invalid request format; check request format definition
03012	Unauthorized access; either the external application does not exist (based on ID), Password is invalid, or the request is being originated from a non-authorized IP address (the IP address of your application must be configured at the COMMZGATE Web Service)
03013	System error; contact COMMZGATE Web Service system administrator.

Result Code	Description
03014	The keyword you are trying to delete does not exist.
04010	Successfully submitted Replace Keyword request
04011	Invalid request format; check request format definition
04012	Unauthorized access; either the external application does not exist (based on ID), Password is invalid, or the request is being originated from a non-authorized IP address (the IP address of your application must be configured at the COMMZGATE Web Service)
04013	System error; contact COMMZGATE
04014	Keyword does not exist, therefore cannot be replaced.
04015	The new keyword you are trying to replace the current keyword with already exists for your application.
04016	The external application has not been configured in the service number mapping table.
04017	The new keyword you are trying to add already exists for another application that is linked to at least one of your service numbers.
05010	Successfully checked for token balance. The token balance value follows this return code, after a comma character e.g. 05010,300359
05011	Invalid request format; check request format definition
05012	Unauthorized access; either the external application does not exist (based on ID), Password is invalid, or the request is being originated from a non-authorized IP address (the IP address of your application must be configured at the COMMZGATE Web Service)
05013	System error; contact COMMZGATE