COMMZGATE

Cloud SMS API Guide

Version 4.2, *with MACH Push-Messaging*

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1 Overview

CommzGate Cloud SMS provides a set of functions for mobile message sending and receiving exposed as HTTP-based APIs. The APIs defined in this document are for applications or services to make use of the CommzGate Cloud Service over the Internet or private leased network.

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

You can get a free account at
https://portal.commzgate.com/app/signup.php

Once you have logged in to your web account, click on the Cloud API tab to get your API ID. Use the link provided to create a password for your API ID as well.

The CommzGate Cloud Service URL that you call will be in the form of:
https://www.commzgate.net/gateway/SendMsg

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 Cloud Service to Mobile Device**.

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


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

For MO APIs, HTTP POST is initiated by the CommzGate Cloud 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 MACH Push Messaging

The CommzGate Cloud API supports the sending of free Push Messages to recipients who have the MACH messaging application (or MACH-integrated apps) installed on their smartphones.
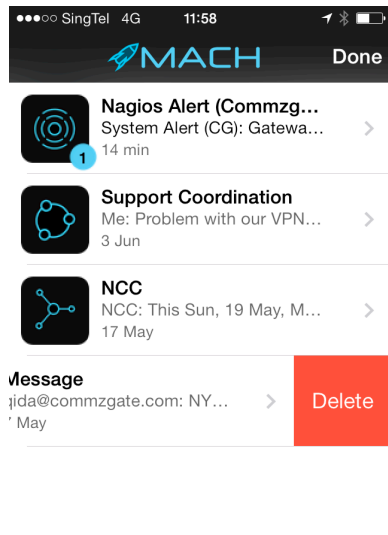
MACH is our push-messaging service that lets you send mobile messages at no charge using our Web App & Cloud API.

MACH is perfectly suited for organizations with teams or a member base, it can help you improve communications drastically while keeping the costs at nothing.

Currently, MACH is supported for iPhone and Android. MACH can be downloaded from:
http://www.commzgate.sg/sg/download.php

MACH Push Messaging is currently supported in the MT API (See section 3). Using the MT API, recipient numbers with MACH installed will automatically receive the message as a MACH Push Message. Otherwise the message will be delivered via SMS.

If you wish to integrate your own smartphone app to MACH, you can do so by registering for a free account at http://app.themach.com

3 MT API Details

3.1 Send Message

URL	
https://www.commzgate.net/gateway/SendMsg	

Description	Sends a message to the specified mobile number.
HTTP Method	POST

Field	Description
ID	*Type=String, Length=50* External Application ID. Pre-assigned by the CommzGate Cloud SMS Service.
Password	*Type=String, Length=50* Authorization password. Pre-assigned by the CommzGate Cloud SMS Service.
Mobile	*Type=String, Length=20* Message recipient mobile phone number (single number, includes country code, excludes "+" sign) e.g. 6591502554
Type	*Type=Char, Length=1* Message Content Type: "A" – ASCII "H" – Hexadecimal "U" – Unicode 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. **Note:** For message with Type U, send the message body as double-byte UTF-16

Message	*Type=String, Length=Variable (see below)* 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
Sender ***Optional***	*Type=String, Length=11 (max)* **Alphanumeric** Originating Address Also know as Number Masking * 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
UserHeader ***Optional***	*Type=String, Length=not more than (280 – Length of Message field) HEX characters.* This is the value of the User Data Header that is used for certain messages types, such as long concatenated messages, Logos and Ring-tones.
OperatorID ***Optional***	*Type=String, Length=20 (Case-Sensitive)* Specifying this field will override the default MT routing. The exact spelling of this value must be obtained from the CommzGate Cloud SMS Service administrator. 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'. * IMPORTANT: You must have an Operator value assigned to you by you account manager in order to use this option.

OTP ***Optional***	*Type=String, Length= variable (Case-Sensitive)* Works only when the Type parameter is set to 'A' This allows you to send SMS containing One-Time Passwords (OTP). Specifying OTP='true' will notify the CommzGate Cloud SMS API to look for the placeholder *OTP* in your message content, and replace this with a randomly generated 5-digit number (the OTP). This same OTP 5-digit number will be appended to the Return String that is returned to your requesting application, after the Message ID, separated by a comma. Use this OTP value returned to you to compare against the input value submitted by the mobile recipient, they should match.

Return String	Description
Return Code	The success/error acknowledgement (from the CommzGate Cloud SMS Service) of the API request. Defined in Return Codes List.
Message ID	This is a unique message identifier that is generated.
OTP	Optional. If you had enabled OTP in your MT request, the 5-digit number generated will be returned here.

A- Example for English Message

***ID**=1000002*
***Password**= qrxy53tohh88*
***Mobile**=6591122334*
***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 (Success)*
Message ID   API_01_118334327757067122

B- Example for Chinese Message
(To send the Character 人)

ID*=1000002*
Password*= qrxy53tohh88*
Mobile*=6591122334*
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 (Success)*
Message ID	API_01_118334327757067122

C- Example for Binary Message
(To send a Nokia Ringtone)

ID*=1000002*
Password*= qrxy53tohh88*
Mobile*=6591122334*
Type*=H*
UserHeader*=06050415810000*
Message*=024A3A51D195CDD004001B205505906105605585505485408208849
900000*

The following return string is returned:
01010

The return string values are mapped as follows:

Result Code	*01010 (Success)*
Message ID	API_01_118334327757067122

D- Example for English Message with OTP

ID=*1000002*
Password= *qrxy53tohh88*
Mobile=6591122334
Type=*A*
Message=Your One-Time Password is *OTP*
OTP=true

The following return string is returned:
01010, API_01_118334327757067122,34215

The return string values are mapped as follows:

Result Code   *01010 (Success)*
Message ID   API_01_118334327757067122
OTP generated   34215

3.2 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.

4 MO API Details

4.1 Receive Message

Whenever the CommzGate Cloud 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 Cloud 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 Cloud Service.

Field	Description
Mobile	The originating mobile number of the received message
Type	Message Content Type: "A" – ASCII "H" – Hexadecimal "U" – Unicode 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.
SMType	This parameter applies only if Type="H". 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- VCARD → 23F40000 LOGO → 15820000 PICTURE → 158A0000 RINGTONE → 15810000
Message	Message Content 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 (URL-Encoded content)

	If the message is a Smart Message (e.g. ring-tone, logo etc), 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 Cloud Service will perform the concatenation of the message parts.
Timestamp	The date-time that the message was received by the CommzGate Cloud 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 *not available* 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 *may* be available subject to the specific service provider.
ConnID	This value specifies the unique ID of the Connector through which the CommzGate Cloud 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 *specific connector*), then use this field.
RoutingProfile	This value is equal to the External Application ID that the CommzGate Cloud 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 Cloud Service receives an incoming SMS and determines that it is to be routed to this application. The CommzGate Cloud 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 Cloud 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'.

5 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 Cloud Service, and the success code returned by the CommzGate Cloud 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 Cloud Service via a HTTP POST.

5.1 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 Cloud Service. If you have already setup a web-component to receive MO messages from CommzGate Cloud 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 Cloud Service (see Section 3), the following are additional parameters fields that CommzGate Cloud 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 Cloud Service. This message ID was returned by the CommzGate Cloud 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 Cloud 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.

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 Cloud Service)
01013	Transient System error; Retry after
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 Cloud Service)
02013	System error; contact CommzGate Cloud 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 Cloud 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 Cloud Service)
03013	System error; contact CommzGate Cloud Service system

Result Code	Description
	administrator.
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 Cloud 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 Cloud Service)
05013	System error; contact CommzGate