



# WhatsApp Implementation Guide

CM.com  
September 2019  
V1.1



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## 1 General

This implementation guide can be used for the step-by-step implementation of WhatsApp messaging using the CM.com Business Messaging API. The Business Messaging API provides your organisation with a single API to send messages via multiple channels like SMS, WhatsApp, RCS, Viber, etc.

Information about CM's WhatsApp solution and pricing can be [found online](#).

Should you have any questions or need clarification, please contact CM.com on +31 (0)76 752 7000 or via [support@cm.nl](mailto:support@cm.nl).

### 1.1 Who should read this guide?

This document is intended for CM customers who have purchased the CM.com Business Messaging API and have gone through the onboarding procedures of CM.com, Facebook, and WhatsApp, and been granted a WhatsApp Business Account (WABA). This document is a supplement to the available API Documentation.

### 1.2 Getting onboard



Because of very strict regulation by WhatsApp, we require lots of information to complete your account activation. You need to comply with [WhatsApp's Commerce policy](#). The process has a duration of 2-4 weeks, to ensure you make smart use of your waiting time, please read the steps carefully.

1. If you do not yet have an existing [Facebook Business Manager](#) account (to manage Facebook ads or a Facebook page), [create a new one](#). Please note that the account needs to be owned by the company in whose name the messages will be sent. If you are a software integrator you cannot use your own Facebook Business Manager ID.
2. [Register yourself](#) at the CM.com platform.
3. In the CM.com [Channels application](#), apply for a WhatsApp Business Account and a WhatsApp business profile. These steps include the registration of a phone number and logo you want to use for your WhatsApp Business Account.
  - Include your [Facebook Business Manager ID](#). This is critical if you ever want to apply for your WhatsApp profile to become an Official WhatsApp Business Account if you want to receive the green checkmark.
  - When creating your 'business profile' choose your [Display Name](#), which is the name shown in the chat to the end-user. Make sure you pick the right name, because changing this later is an involved process. When using a registered tradename as your display name, make sure the company registering for a WhatsApp account actually owns this registered name the profile will be using.
  - Pick a [phone number](#) to receive and send messages with. Please make sure to indicate if the number has been used for WhatsApp before. If you don't have your own phone number, you can [acquire one from CM.com](#).

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4. [CM.com](https://cm.com) sales will contact you to get a signed contract.
5. Prepare your service organization and contact flows:
  - Read the various [WhatsApp rules and regulations](#) your usage will have to comply with.
  - Determine how and where you want to answer customer service requests – you can use your existing software and integrate with CM's Business Messaging API or CM's own customer contact application.
  - When you want to send notifications, have an Opt-in built in your processes and determine your templates
  - Prepare your contact forms, emails, boarding passes with your new contact information.
6. Set-up the data flows. When required develop, otherwise configure, activate and start testing.



## 2 Designing WhatsApp communication

The use cases of WhatsApp for businesses are defined in two types of communication: notifications and the customer care window. Both allow you to send messages, but they differ in price, features and rules and regulations governing their usage.

The division between the two building blocks are shown in the table below.

	Notifications	Customer care window
<b>Initiative to start the conversation</b>	Company	End-users
<b>Opt-in needed?</b>	Yes	No
<b>Message content</b>	Only Templated Messages	Both Templated and Session messages
<b>Message components</b>	Plain text with parameters.	Text, Location, Contacts, Media (image, audio, document)

### 2.1 Notifications

The WhatsApp Business Solution enables companies to send notifications towards their customers, employees, fans or any other type of end-user. Notifications are characterized by being sent outside of the Customer Care Window and you can only use pre-defined Templated messages.

In order to send notifications, the end-users have to first give permission to these notifications by an active 'opt-in'. Within the EU, this is no different from any other form of communication like SMS or Email. Failure to correctly obtain opt-in might result in termination of your WhatsApp Business Account by WhatsApp/Facebook.

#### 2.1.1 Getting Opt-in

These are the requirements for an opt-in:

- The opt-in has to be active, meaning it must be triggered by a user action, such as entering a phone number or checking a box to indicate consent.
- Provide clear opt-in messaging, so the end-users know what type(s) of messaging they are signing up for.
- Show the intended use of WhatsApp as the communication channel by showing the [logo and name](#).
- Opt-in confirmation via WhatsApp after completing the opt-in process

The opt-in can be delivered to the end-users by any third-party channel (such as email, SMS, RCS, QR-Codes, Websites). The company sending out the message is responsible for ensuring the opt-in was provided and should register the opt-in in their system.

**NOTE:** Please remember that local government regulations might also apply to your ability to contact customers.

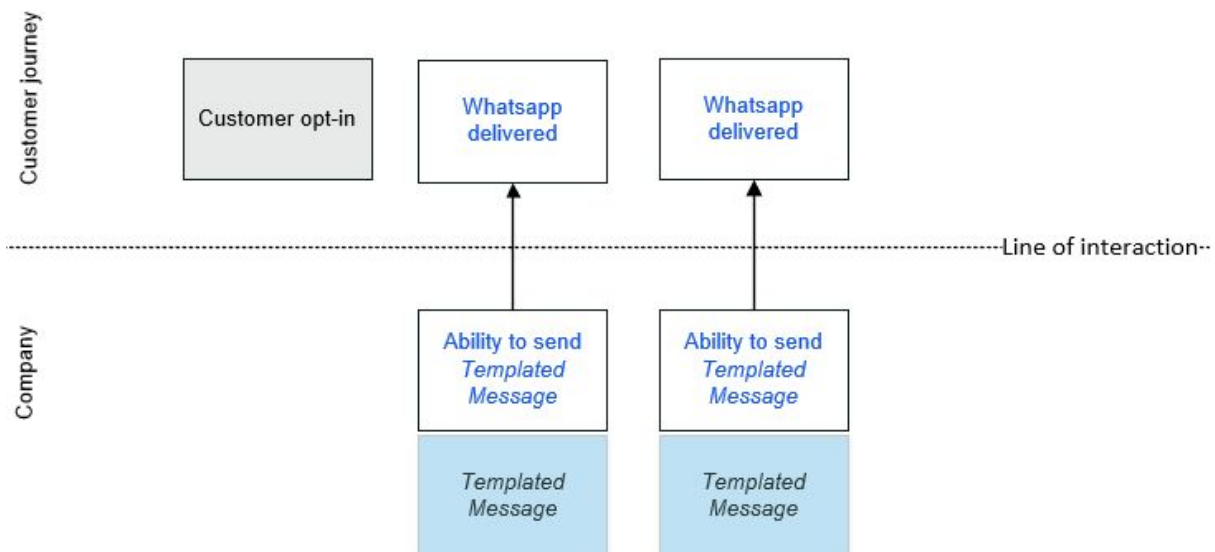


The user must be asked to opt-in via a visual element (checkbox or similar) shown next to the WhatsApp brand name and logo on your chosen third-party channel.

In addition, language must be shown adjacent to the UI elements to explain clearly what information will be received and make specific reference to this information being sent as messages on WhatsApp, like “receive [noun], [logo and name], on [number]”; where noun is the type of information related to the flow.

Once you have an opt-in, the validity of this opt-in is not limited to a certain time frame. You can ask for opt-in multiple times and you should do so for situations where the purpose of the message is different from the purpose for which an opt-in was granted.

For sending messages outside of the Customer Care Window, the flow should therefore look like this:





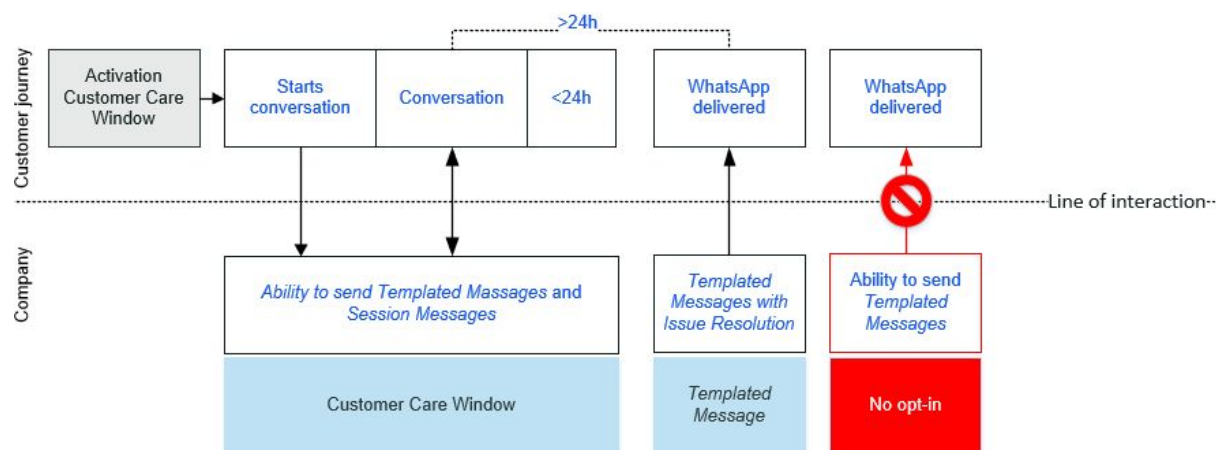
## 2.2 Customer care window

A Customer Care Window starts when an end-user reaches out to the company (sends you a message). During this 24-hour customer care window, the company has the ability to send both Templated Messages and Session Messages. For the duration of the Customer Care Window, Templated Messages will be billed according to Customer Care Window [pricing](#).

In order to activate the Customer Care Window, an end-user needs to initiate the conversation. This can be done by any third-party channel (e.g. a button on the website with “Send Hi to +31(0)612345678 to open the conversation” or a QR-code). The activation of the Customer Care Window by the end-users does not count as opt-in. Therefore, it is not possible to send notifications after the Customer Care Window ended, without obtaining a specific opt-in.

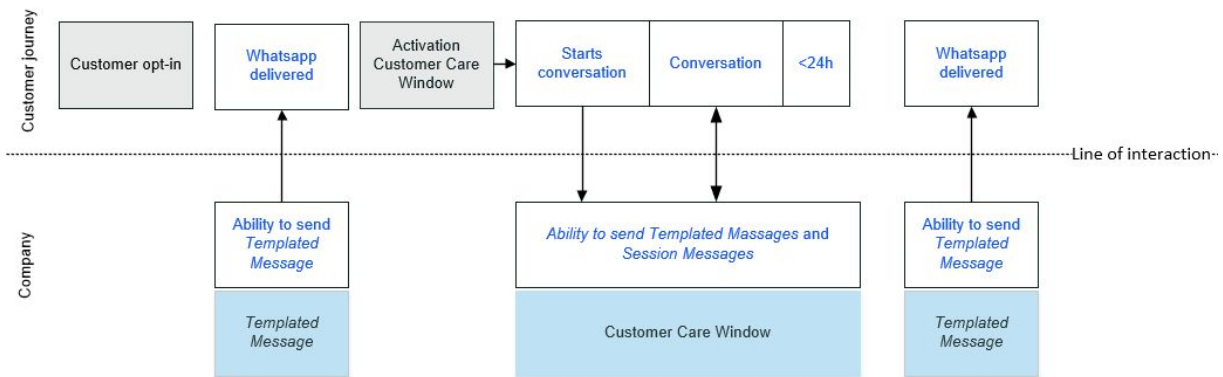
The Customer Care Window ends 24 hours after the last message is sent by the end-user. In this case, the company loses the ability to send messages to that specific end-user and only Templated Messages for which an opt-in has been granted can be sent.

When the company needs more than 24 hours to solve an end-user’s problem, the company has the possibility to send a Templated Message with a resolution issue tag (outside the Customer Care Window) to trigger the end-user to re-open the Customer Care Window. For example: “We have updates regarding your ticket {{ticket ID}}. Please respond back if you’d like to continue support”. If the end-user responds to this notification, a new Customer Care Window opens, enabling companies to send both Templated and Session Messages for another 24 hours.





In practice, both building blocks (Customer Care Window and notifications) can be used within one end-user communication flow. In the flowchart below, first a notification is sent (because the customer has approved the opt-in), followed by the customer who activates a conversation (and therefore opens a Customer Care Window). Because this end-user has approved the opt-in, the company has the possibility to send notifications both inside and outside the Customer Care Window.







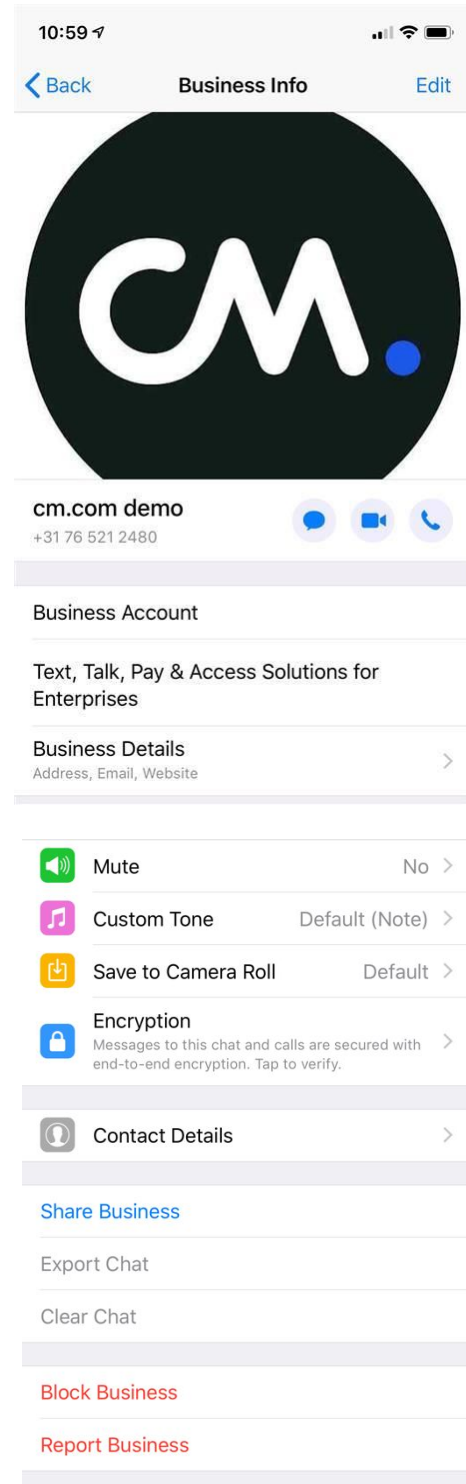
## 2.3 End-user experience

Users experience a chat with a business account like they would most other chats. For the end user, making use of WhatsApp is free of charge, with the exception of their data usage when there is no WIFI. Hence, consider the message size you send to your user. We strongly advise not to send files larger than 1 MB, and for a conversation not to exceed 20MB.

Your WhatsApp Display Name, as you have chosen during enrollment, is shown at the top of the chat. Users can open your profile information by clicking the profile logo and/or name. This will open the business details you specified during enrollment to the end-user.

From the same business details screen, end-users can -at any time- choose to either *Block* your communication or *Report* your profile to WhatsApp. These are powerful actions. Once a user has blocked your company profile, you will be unable to contact that user any longer and you have no control or appeal over this.

When a user reports your profile, in addition to blocking, he is filing a complaint with WhatsApp. If WhatsApp receives significant negative feedback about your customer communications, your entire WhatsApp Business Account can eventually be revoked.



is



## 2.4 Linking to your WhatsApp account

WhatsApp provides a [short link system](#) to initiate WhatsApp chats in the form of wa.me weblinks. These links allow you to ask the WhatsApp iOS and/or Android app to open a chat. A WhatsApp short link looks like:

<https://wa.me/15551234567>

You can even provide a chat suggestion value for initiating the conversation. This suggested value will prefill the standard “Type a message” field, ready to be sent by the user with the click of a button. Be sure to use URL query encoding when providing the text=value.

<https://wa.me/15551234567?text=I'm%20interested%20in%20your%20car%20for%20sale>

You can easily incorporate such links in website buttons, Facebook campaigns or inside a QR code to target offline distribution.



## 2.5 Messages

Within WhatsApp there are multiple message types available:

Message Type	Communication Type	Customer care window required
A text message	Session message	Yes
A media message	Session message	Yes
A location message	Session message	Yes
A contacts message	Session message	Yes
A templated message	Templated message	No

Within the CM.com Business Messaging API, these types are used in 'Conversation items' which in turn are used inside of a 'Conversation'. Please find the details in our [API documentation](#).

Unsupported or partially supported message types are:

- Voice and video calling
- Stickers
- Voice/speech message (receiving only as audio media message)
- GIF messages (receiving only, as video media message)



### 2.5.1 Text messages

Text messages are and should always be encoded in UTF-8 and support characters like emojis.

Formatting	Symbol	Example
<b>Bold</b>	Asterisk (*)	Your total is <b>*\$10.50*</b> .
<i>Italics</i>	Underscore (_)	Welcome to <i>_WhatsApp_!</i>
Strike-through	Tilde (~)	This is <del>~better~</del> best!
Code	Three backticks (`)`)	<code>```print 'Hello World';```</code>

WhatsApp even allows for limited formatting in messages. To format all or part of a message, use these formatting symbols:



NOTE: A space character needs to proceed the formatting character

A web link is not a message type in its own right, but a piece of textual content. Links are automatically detected, and the first link can be turned into a link preview. Links are possible in text messages and in templated messages.

To determine the content that WhatsApp will present for a web link preview, your webpages have to implement the [Open Graph Protocol](#). This protocol is used by WhatsApp, Facebook, Twitter and many other websites in the world to dynamically create previews of links.



## 2.5.2 Media messages

The following media types are supported by WhatsApp

Media	Supported File Types	Max size
document	Any valid MIME-type	100 MB
image	image/jpeg, image/png	5 MB
audio	audio/acc, audio/mp4, audio/amr, audio/mpeg, audio/ogg (opus codec)	16 MB
video	video/mp4, video/3gpp <b>Note:</b> Only H.264 video codec and AAC audio codec is supported.	16 MB

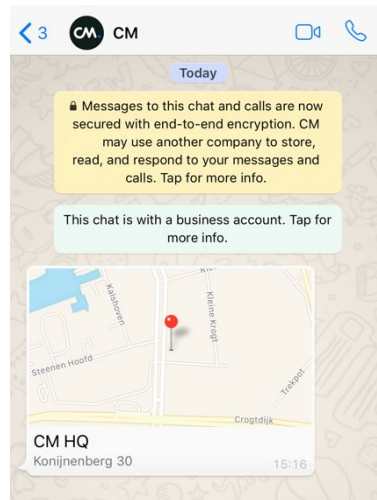
When a media message is sent, the media is stored encrypted on the WhatsApp servers for **7 days**. If a user makes a request to download the media after 7 days, the WhatsApp servers will request the same media file from the WhatsApp Business API client. If the media has been removed, the user will be notified that the media is unavailable. It is not safe to assume the media was downloaded simply based on the delivered and read receipts. Outgoing media is generally safe to be removed past 30 days, but you should employ a strategy that best suits your business.



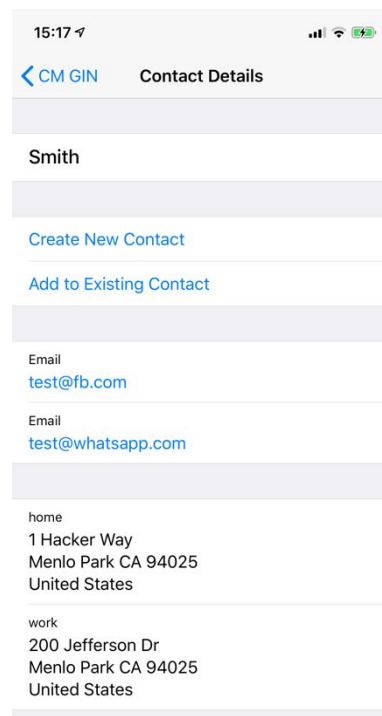


### 2.5.3 Location and Contact messages

A location will deliver a bubble to the user which can be opened in a map view. It will show a marker on the map, the address if provided, and you can accompany the marker with a small title for this marker. This type of message is ideal if you need to provide directions to a end-user.



A contacts message will deliver a bubble with a name card. Within this name card you can provide all the details of a person like with other vCard systems. You can either immediately contact this person via WhatsApp or open the card and add the details to an entry in the address book of your iOS or Android device. Please do consider any GDPR or similar privacy-related regulation.





## 2.5.4 Templated messages

A templated message is the only message type you can use to deliver Notifications outside of the Customer Care Window. A templated message is a special type of message, which makes use of a predefined Message Template. All templates need to be submitted to CM.com for pre-approval by WhatsApp before you can make use of them. You can submit templates for approval inside your entry for WhatsApp in the CM [Channels app](#). This process (at this moment) can take up to a week, so be sure to timely submit your templates.

Once a template is approved, you will receive the namespace and the ID of the template from CM.com. The namespace and ID are references to your WhatsApp Business account and your templates within this account. You need to refer to these identifiers when sending your templated message.

### What does a Message Template look like?

A message template may consist of text, emoji or WhatsApp-specific formatting. A templated message can consist of a maximum of 1024 characters before filling in the variables, 4096 characters after filling the variables. To personalize the message, you can use the numbered placeholders `{{x}}`. Each of those placeholders can be filled with letters, digits, special characters, and spaces. URLs can be sent, but you cannot use Media or Location items in your templates.

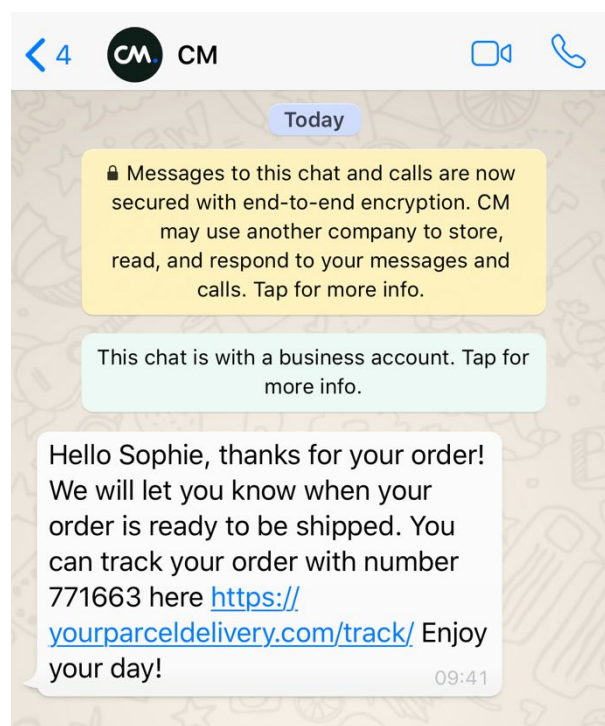
This is best explained with an example.

Hello `{{1}}`, thanks for your order! We will let you know when your order is ready to be shipped. You can track your order with number `{{2}}` here `{{3}}`. Enjoy your day!

`{{1}}` = Sophie

`{{2}}` = 771663

`{{3}}` = <https://yourparceldelivery.com/track/>





As WhatsApp Business is intended as a customer service channel, sending advertising, marketing, and promotional messages are prohibited, resulting in disapproval of message templates with such character. For further information on the commerce policy, please [click here](#).

### **How to register new Message Templates**

To register your own Message Templates go to your WhatsApp entry in the [CM Channels app](#). For detailed instructions visit our [Helpcenter article on the topic](#).

## **2.6 Unsupported features**

There are several features that are currently NOT possible within WhatsApp and/or Business Messaging.

Not supported at this time are:

- Voice and video calling
- Sending Speech/Voice messages
- Receiving and sending GIFs and WhatsApp stickers
- Video messages without an audio track
- Typing indicators
- Group conversations

Similarly, voice messages will be received as audio messages.

An alternative to sending a voice/speech message is to send an audio media message.





### 3. Service description

In order to send and receive WhatsApp messages you will need to integrate with the CM.com Business Messaging API. The Business Messaging API allows you to send various message types over multiple channel types, like SMS, WhatsApp, RCS or Viber. Detailed documentation about the API can be found in our online [API documentation](#).

The second part of your implementation is receiving incoming messages from customers. You have two options for receiving messages.

- Make use of CM.com's [Customer Contact](#) web app. Your package includes three free user subscriptions for this service.
- If you wish to handle all incoming messages yourself, you have to implement a webhook which listens for these incoming messages. Detailed documentation can be found in the [Webhook documentation](#). Your CM customer success manager will configure your webhook in the CM.com platform.

#### 3.1 Authentication

All requests require your product token which, as a registered user, you can find on our platform in the [Gateway app](#). It was also e-mailed to you after registration and has a format like: 00000000-0000-0000-0000-000000000000.

**NOTE:** Your product token is private information and should never be incorporated into webpages and/or mobile applications where it can be exposed to 3rd parties.

#### 3.2 API Endpoints

Our API supports sending messages via HTTP. You can send a POST request containing a JSON body as specified in the documentation.

Our global gateway is accessible via one endpoint which we are load balancing over 2 platform locations in The Netherlands. To reduce latency, and/or be compliant to local legislation we also have platforms in London, South Africa, and Shanghai. More information can be found in our [Help Center](#).

- Global Endpoint URL: <https://gw.cmtelecom.com/v1.0/message>
- South African Endpoint URL: <https://gw.cmtelecom.co.za/v1.0/message>
- Shanghai Endpoint URL: <https://gw.cmtelecom.cn/v1.0/message>
- London Endpoint URL: <https://gw-uk.cmtelecom.com/v1.0/message>

In order to send WhatsApp messages, be sure to specify the “allowedChannels”: [“WhatsApp”] parameter in your JSON message.



### 3.3 Sending messages

Each request involves POST'ing a JSON object like this:

```
"messages": {  
  "authentication": {  
    "producttoken": "00000000-0000-0000-0000-000000000000"  
  },  
  "msg": []  
}
```

You specify your authentication token for each request and within the request you can send multiple messages. Each individual message is a JSON object to be added inside the msg array.

For each Message Object you specify the To, From, Body/Content and, very important, the Channel via which the message should be delivered.

```
{  
  "allowedChannels": [ "WhatsApp" ] ,  
  "from": "CM.com",  
  "to": [{  
    "number": "00447911123456"  
  }],  
  "body": {  
    "type": "auto",  
    "content": "This is a simple message"  
  }  
}
```



### 3.3.1 Sending Rich Content

When sending richer messages than a simple text message, you will need to specify your contents in the Rich Content block. The Rich Content block can be used to include the richer message types of the Business Messaging API channels. In the case of WhatsApp, we will use it to specify multiple “Conversation Items” inside the Conversation array.

```
{
  "allowedChannels": [ "WhatsApp" ],
  "from": "CM.com",
  "to": [{
    "number": "00447911123456"
  }],
  "body": {
    "type": "auto",
    "content": "This is a fallback value"
  },
  "RichContent": {
    "conversation": []
  }
}
```



A conversation item object contains either a “text”, a “media”, a “template” or a “location” item. This example shows 3 conversation items, to be delivered at once to the recipient.

```
[
  {
    "text": "Hi this is a rich content message!"
  },
  {
    "media": {
      "mediaName": "conversational-commerce",
      "mediaUri":
"https://www.cm.com/cdn/web/nl-nl/blog/conversational-commerce.jpg",
      "mimeType": "image/jpg"
    }
  },
  {
    "location": {
      "latitude": "51.603802",
      "longitude": "4.770821",
      "label": "CM HQ",
      "searchQuery": "Konijnenberg 30"
    }
  }
]
```

**Note:** There are other types of conversation items that can be used for different Channel types.



### 3.3.2 Sending Templated Messages

A templated message is also a type of conversation item. Templated messages require you to register a Template and get it pre-approved by WhatsApp. Please note Chapter 2.5.4 Templated messages, on how to register your WhatsApp templates. Sending a templated message (msg) looks like this:

```
{
  "allowedChannels": [ "WhatsApp" ],
  "from": "CM.com",
  "to": [{
    "number": "00447911123456"
  }],
  "body": {
    "content": "This is a fallback value"
  },
  "RichContent": {
    "conversation": [{
      "template": {
        "whatsapp": {}
      }
    }]
  }
}
```



Here we specify an array of a single conversation item. The item is a template type item. The template uses a "whatsapp" template. The value assigned to the whatsapp attribute is the actual template call.

```
"conversation": [{
  "template": {
    "whatsapp": {
      "namespace": "yournamespace",
      "element_name": "yourtemplatename",
      "language": {
        "policy": "fallback",
        "code": "en"
      },
      "localizable_params": [{
        "default": "Name"
      }, {
        "default": "Order"
      }, {
        "default": "Order2"
      }, {
        "default": "https://example.com"
      }
    ]
  }
}]
```

The format of the object for the WhatsApp attribute is exactly the same as the hsm object in WhatsApp's [Official template usage documentation](#).



In order to send the template with the API you need three critical information elements:

- The template name
- The template namespace
- The template language

You can find these by viewing your approved template in the Channels app and clicking the 'Details' button to reveal these technical details.

Common mistakes made when using templates are;

- Specifying a non-existing language. There are 3 possible English language codes for instance; en, en\_GB and en\_US and you need the right one for your message. A list of [valid languages codes is available](#).
- Specifying a deterministic delivery (where basically your template is only delivered to end users using that exact languagecode).



### 3.3.3 Error handling

It is very important to implement error handling when sending messages. Your request can succeed completely, fail completely, or fail partially. If you send a request with multiple message objects inside the msg array, one may fail and others might succeed. A partial failure like a complete success will respond with HTTP status code 200, but the JSON response will help you determine that it was only a partial success.

This example shows such a situation. The response indicates a partial failure with errorCode 201. The messages array reflects the results of each of the two messages you attempted to send in a single request. The first message succeeded and therefore has a messageErrorCode of 0. The second message failed and reports error code 304.

```
{
  "details": "Created 1 message(s)",
  "errorCode": 201,
  "messages": [
    {
      "to": "00447911123456",
      "status": "Accepted",
      "reference": "your_reference_A",
      "parts": 1,
      "messageDetails": null,
      "messageErrorCode": 0
    },
    {
      "to": "00447911123457",
      "status": "Rejected",
      "reference": "your_reference_B",
      "parts": 0,
      "messageDetails": "A body without content was found",
      "messageErrorCode": 304
    }
  ]
}
```

A full list of error codes and their meaning is provided in the [online documentation](#).





### 3.4 Receiving messages

In order to receive incoming messages when you are not using CM.com's Customer Contact web app, you have to implement a webhook. The documentation for the webhook for incoming messages, also known as inbound or MO messages, can be found [online](#).

You need to provide CM with a web address. CM will POST a JSON message to this address. If your system replies with HTTP status code 200, you indicate receipt of the incoming message.