CMT Mobile API
v1.0.11

Confidential

TABLE OF CONTENTS

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Document Summary

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Document Change History

Date of Change	Version	Reason for Change	Summary of Change	Author
November 1, 2012	1.0.1	Initial Draft		J. Backof
November 13,2012	1.0.2	Documentation Updates	Changed format of reponse object for POST,PUT,DELETE. Updated Authentication section w/ more information about oauth impl. Added Session Management description. Added general information & formats. Added Link Resource. Updated Precog resource based on recent documentation changes. Timestamps are now 8601	J. Backof
November 16, 2012	1.0.3	Precog Updates	Added actionType and action to features for precog. Made the init non required on precog request Removed message and allowed from feature response.	J. Backof
November 20, 2012	1.0.4	General Updates	Added phoneNumber field	J. Backof
January 9, 2013	1.0.5	Auth Changes	Changed Oauth to support oauth_token and token_secret used for authentication. Removed references to account id as this now derived from the	J. Backof

			oauth_token. Changed "accounts" resource to "account" Changed "auth" resource to return oauth_token and oauth_token_secret on successful login	
January 22, 2013	1.0.6	Precog Changes	Removed init from response. HTTP Status indicates success/failure of precog message Minor structural changes	J. Backof
March 1, 2013	1.0.7	Precog Updates	Added alert, interval and updated example	J. Backof
May 7, 2013	1.0.8	Account and COF Updates	Added accountId to the account resource. Added card on file resources	J. Backof
May 7, 2013	1.0.9	COF Updates	Fixed field description, Added tokenize resource and authorize resource	J. Backof
May 17, 2013	1.0.10	Profile Updates	Added new profile fields to support default COF and tip amounts	J. Backof
June 12, 2013	1.0.11	Added new pairing functionality	Added callback url, default tip percentages and tip amounts to pairing resources. Added update pairing.	J. Backof

General Information

Overview

CMT's Mobile API provides programmatic access to CMT's Mobile Middleware services. These services include robust profile storage including preferences, address information and card on file storage. CMT's Mobile Middleware also accesses CMT's proprietary "precog" features for traffic management, e-hailing and intelligent dispatch.

Audience

The audience for this document is typically an application developer familiar with RESTful services, JSON and/or XML. Developers should also be familiar with oauth and/or general request signing techniques.

Getting Started with the API

To get started with the API, a developer must obtain credentials from CMT for authentication. Once authenticated, developers can access resources using standard RESTful calls. CMT prefers that developers use JSON as the message format, but XML is also supported.

The Mobile API was designed to integrate directly with mobile devices and was not built for use in server to server applications. If you need to communicate directly with CMT systems outside of a mobile application, please contact CMT as there may be a more appropriate API available.

Dates/Times

All optional dates should be passed in as the ISO 8601 date format, YYYY-MM-DDTHH:mm:ss+ UTC Offset. (eg. 2012-07-16T13:24:00+0000 is 1:24 pm on July 16, 2012 UTC).

Currency Codes

The currency codes used are from the standard ISO 4217 Currency Codes.

Amounts

Amounts do not include cents nor thousands delimiters. For a $1,017.65 amount, 101765 is sent and the last 2 digits are assumed to be cents. All amounts are assumed to be in the currency code specified in the request. If a currency code is not given, USD is assumed to be the currency.

Integers

Integers are assumed to be a non-negative number unless otherwise stated.

Communication Overview

Accessing CMT's Mobile API is done via a direct connection from mobile device.

Transport

All resources support both XML or JSON and all communications are over SSL (HTTPS).

HTTP Response Codes

The following table lists the possible http response codes returned by the CMT Mobile API and their corresponding description.

Code	Description
200	Request processed successfully. Check responseCode field for additional status indicators.
201	Creation request processed successfully. 201 is typically returned on a POST request to create a resource.
400	Message format exception. This is typically returned when the message format is incorrect. Check the latest API docs.
401	Unauthorized. The response code is returned if: - Oauth authentication failure (could be an expired token)
403	Forbidden. Developers will receive this response code if they try to access a resource without proper authorization.
500	Server Error. Retry request.

Authentication, Authorization

Introduction
Each request to the CMT Mobile API requires authentication. CMT employs a signature authentication strategy based on oauth 1.0a.

Authentication
To authenticate to the CMT Mobile API, implement or download a client based on oauth 1.0a. More information on oauth can be found at http://oauth.net and for information or third party resources and libraries, visit:

http://oauth.net
http://oauth.net/code/
http://hueniverse.com/oauth/guide/authentication/

Once your oauth client is in place, you will be provided an oauth consumer key and oauth consumer secret key. Please do not share your secret key with anyone and obfuscate any reference to this key in your libraries.

Field	Description
OAuth Consumer Key	Unique key which grants developers access to specific resources and fleets.
OAuth Consumer Secret Key	Private key issued to developers which is used in the hashing algorithm. See below.
OAuth Token	A token used for this session. Registration and Login do not require a valid OAuth Token. Developers will receive a valid token when a successful call is made to the /auth resource. This token expires and must be renewed after a set period of time.
OAuth Token Secret	The OAuth Token Secret is supplied by CMT on a successful Auth and must be used to sign all subsequent requests made by the client.

Sample Header
Below is a sample header request for an Mobile API oauth request.

```
request: account/
Accept:[application/json]
Authorization:[OAuth oauth_consumer_key="api-consumer-1", oauth_nonce="-
2277426177509978136", oauth_signature="5PICyq0XvXbwS2FvlAvMetaTxM0%3D",
oauth_signature_method="HMAC-SHA1", oauth_timestamp="1352825875", oauth_token="
ZTlhYzE1ZWMtZDMyNy00ZjFhLWJhNmQtMThiZmU2OGViNWJk", oauth_version="1.0"]
X-CMT-SessionToken:[MWZmNDcwNzQtZTMzZC00NjExLWEwMTItNTQ4OGNiYWVmOTUy]
Content-Type:[application/json]
```

Authorization
Once a developer is properly authenticated to the CMT Mobile API, their credentials will be authorized for each resource request. If a developer is unauthorized to access a particular resource, a HTTP status of 403 (Forbidden) will be returned. Developers will also receive a 403 Status for accessing a resource which requires an OAuth token.

API Resources

Registration
The Registration resource provides a mechanism for developers to register user accounts with CMT.

Authentication Resource
Once an account is created and verified via email, users will be able to authenticate to the Mobile API. An oauth token is returned for that user and must be presented in all subsequent resource requests.

Account Resource
The Accounts resource provides developers access to the user's account information including preferences, addresses and card on file data.

Link Resource
The Link Resource provides access to CMT's link functionality for in-vehicle payment and trip reporting.

Precog Resouce
The Precog resource provides access to CMT's proprietary messaging servers for e-hailing, predictive traffic routing and dispatching.

Registration Resource

Summary

The Registration resource provides mechanisms to register and confirm the registration of a new Mobile API account.

Resource	Description
POST /registration	Registers a user in the Mobile API middleware
GET /registration/confirmation	Confirms a Mobile API Registration

POST /registration

Registers a user with the Mobile API middleware.

Resource URL

Production: https://mobile.cmtapi.com/v1/registration

Sandbox: https://mobile-sandbox.cmtapi.com/v1/registration

Request Field Description

Field	DataType	Size	Required	Notes
email	String	255	Y	Email address associated with the account (also the login)
password	String	100	Y	Password for the registration
firstName	String	50	Y	First name on the account
lastName	String	50	Y	Last name on the account
phone	String	50	N	Phone Number of the mobile device
twitterId	String	255	N	Used to link to a twitter account
facebookId	String	255	N	Used to link to a facebook account
linkedInId	String	255	N	Used to link to a linkedIn account
language	String	16	N	Language used. Defaults to en-us

Response Field Description

Field	DataType	Size	Required	Notes
responseCode	Integer		Y	See Appendix for list of sub codes
responseMessage	String	255	N	Detailed message

Error Sub-codes (HTTP 400)

Code	Description
443	Existing Account Exception
446	Deserialization Exception
445	Unauthorized
444	Validation Exception. See Response Message

Example Request (POST)

POST URL: *https://mobile.cmtapi.com/v1/registration*

Request (JSON)

{"email":"test@cmtnyc.com","lastName":"Test","firstName":"User","phone":"302-322-3456","password":"filofaff","language"="en-us"}

Successful Response (JSON)
HTTP Status: **201 (Created)**

Unsuccessful Response (JSON)
HTTP Status: **400**
{"responseCode":444,"responseMessage":"Invalid Email Address"}

GET /registration/confirmation
Confirms an existing registration for a user.

Resource URL

Production: https://mobile.cmtapi.com/v1/registration/confirmation

Sandbox: https://mobile-sandbox.cmtapi.com/v1/registration/confirmation

Request Field Description

Field	DataType	Size	Required	Notes
emailAddress	UUID	255	Y	Email address of the user
confirmationToken	String	255	Y	Generated token for account confirmation

Response Field Description

Field	DataType	Size	Required	Notes
responseCode	Integer		Y	See Appendix for list of sub codes
responseMessage	String	255	N	Detailed message

Error Sub-codes (HTTP 400)

Code	Description
472	Registration Error
444	Validation Exception. See Response Message

Example Request (GET)

GET URL: *https://mobile.cmtapi.com/v1/registration/confirmation?emailAddress=test@cmtyc.com&*

confirmationToken=sda79gdfskue23darfdseFsd9I88w21

Successful Response (JSON)
HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)
HTTP Status: **400**
{**"responseCode":472,"responseMessage"**:"Registration Error. Bad Registration Code."}

Authentication Resource

Summary

This resource authenticates users in the Mobile API middleware. Note that the OAuth Token and OAuth Token secret are returned on this method. These values must be used to authentication and sign all subsequent requests (See Authentication section above).

Resource	Description
GET /auth	Authenticates a Mobile API User and provides oauth credentials for subsequent requests.

GET /auth

Authenticates a Mobile API User

Resource URL

Production: https://mobile.cmtapi.com/v1/auth

Sandbox: https://mobile-sandbox.cmtapi.com/v1/auth

Request Field Description

Field	DataType	Size	Required	Notes
emailAddress	UUID	255	Y	Email address of the user
password	String	255	Y	Password of the user

Response Field Description

Field	DataType	Size	Required	Notes
oauthToken	String	255	Y	Token to be used on all subsequent resource calls.
oauthTokenSecret	String	255	Y	Token secret used to sign all subsequent resource calls.
oauthExpiresInSeconds	Integer	4	Y	Returns the number of seconds in which the oauth token will expire. Once the oauth token expires, developers will receive a 401 (unauthorized) and must authenticate again.

Error Sub-codes (HTTP 400)

Code	Description
417	Unauthorized
418	Error retrieving account information
419	Invalid username or password
444	Validation error. See detail message.

Example Request (GET)

GET URL: *https://mobile.cmtapi.com/v1/auth?emailAddress=test@cmtyc.com&password=abcd12345x!*

Successful Response (JSON)
HTTP Status: **200 (Success)**

{"oauthToken":"ZTlhYzE1ZWMtZDMyNy00ZjFhLWJhNmQtMThiZmU2OGViNWJk","oauthTokenSecret":"ZWU5MDcxZWUtMzgwZS00M2FiLWFkNjctMGQ2MmM5MzFlOWNl","oauthExpiresInSeconds":6460}

Unsuccessful Response (JSON)
HTTP Status: **400**

{"responseCode":419,"responseMessage":"invalid username or password"}

Account Resource

Summary

This resource provides access to updating their account data and provides functionality to list, get, add, update and delete addresses for a Mobile API user. **Please note that all account resources require a valid oauth token to be passed.**

Resource	Description
GET account/	Retrieves an Account resource for the current user.
PUT account/	Updates an Account for the current user.
GET account/addresses	Gets a list of addresses for a Mobile API User
POST account/addresses	Creates a new address for a Mobile API User
GET account/addresses/:addressId	Gets an address for a Mobile API User
PUT account/addresses/:addressId	Updates an existing address for a Mobile API User
DELETE account/addresses/:addressId	Deletes an address for a Mobile API User

GET account/

Gets the account data for a Mobile API Account.

Resource URL

Production: https://mobile.cmtapi.com/v1/account/

Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/

Response Field Description

Field	DataType	Size	Required	Notes
accountId	String	255	Y	Account ID for customer
email	String	255	Y	Email address associated with the account (also the login)
firstName	String	50	Y	First name on the account
lastName	String	50	Y	Last name on the account
twitterId	String	255	N	Used to link to a twitter account
facebookId	String	255	N	Used to link to a facebook account
linkedInId	String	255	N	Used to link to a linkedIn account
accountStatus	Integer		Y	Status of the account – See Appendix A for status codes
defaultCardOnFileId	String	255	N	The default card on file to use for credit card transactions.
defaultTipPercentage	Integer		N	The default tip percentage (values between 0 and 200);
defaultTipAmount	Double		N	The default tip amount to be used in the transaction. Please note that the above will be combined at authorization.

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found
443	Error retrieving account information
446	Deserialization exception

Example Request (GET)

GET URL: *https://mobile.cmtapi.com/v1/account*

Successful Response (JSON)

HTTP Status: **200 (Success)**

{"accountId":"78260915-c622-4edf-a2e9-c3ccd620355b","email":"test@cmtnyc.com","firstName":"Test","lastName":"User","twitterId":"TWITID","accountStatus":0, "defaultCardOnFileId":"13487915-c923-4f5t-a2e9-c3ccd643c6732", "defaultTipPercentage":20, "defaultTipAmount":1.00}

Unsuccessful Response (JSON)

HTTP Status: **400**

{"**responseCode":446,"responseMessage**":"error processing message data. Please check specifications. "}

PUT account/

This resource provides developers a method to update Mobile API account information.

Resource URL

Production: https://mobile.cmtapi.com/v1/account/
Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/

Request Field Description

Field	DataType	Size	Required	Notes
accountId	String	255	Y	Account ID for customer
Email	String	255	Y	Email address associated with the account (also the login)
firstName	String	50	Y	First name on the account
lastName	String	50	Y	Last name on the account
twitterId	String	255	N	Used to link to a twitter account
facebookId	String	255	N	Used to link to a facebook account
linkedInId	String	255	N	Used to link to a linkedIn account
accountStatus	Integer		Y	Status of the account – See Appendix A for status codes
language	String	16	N	Language for the user. Defaults to "en-us"
defaultCardOnFileId	String	255	N	The default card on file to use for credit card transactions.
defaultTipPercentage	Integer		N	The default tip percentage (values between 0 and 200);
defaultTipAmount	Double		N	The default tip amount to be used in the transaction. Please note that the above will be combined at authorization.

Response Field Description

Field	DataType	Size	Required	Notes
responseCode	Integer		Y	See Appendix for list of sub codes
responseMessage	String	255	N	Detailed message

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found
443	Error retrieving account information
446	Deserialization exception
444	Validation exception. See detail message.

Example Request (PUT)

PUT URL: *https://mobile.cmtapi.com/v1/account/*

Request (JSON)

```
{"accountId":"78260915-c622-4edf-a2e9-
c3ccd620355b","email":"test@cmtnyc.com","firstName":"Test","lastName":"User","twitter
Id":"TWITID","accountStatus":0,"language"="en-us","defaultCardOnFileId":"13487915-
c923-4f5t-a2e9-c3ccd643c6732", "defaultTipPercentage":20, "defaultTipAmount":1.00}
```

Successful Response (JSON)
HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)
HTTP Status: **400**
{"responseCode":442,"responseMessage":"account not found"}

GET account/addresses

Gets a list of all addresses for a user.

Resource URL

Production: https://mobile.cmtapi.com/v1/account/addresses

Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/addresses

Response Field Description

Field	DataType	Size	Required	Notes
addressId	UUID		Y	Unique identifier for an address
friendlyName	String	50	Y	A friendly name for the address (used for display purposes)
buildingName	String	20	N	Optional Name of the building the address is in
addressType	String	20	N	Optional Address Type (Home, Work, etc…)
fullAddress	String	255	Y	Full Address Information
ringCode	String	255	N	Used to ring the apartment or office when driver arrives.
latitude	Double		Y	Latitude of the address.
longitude	Double		Y	Longitude of the address.
favorite	Boolean		Y	Indicates if the address is a favorite or not. (true/false)

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found
443	Error retrieving address information

Example Request (GET)

GET URL: *https://mobile.cmtapi.com/v1/account/addresses*

Successful Response (JSON)

HTTP Status: **200 (Success)**

```
[
{"addressId":"78260915-c622-4edf-a2e9-
c3ccd62035ae","friendlyName":"HOME","addressType":"home","buildingName":"test
building","latitude":56.4333433,"longitude":-67.32323232,"fullAddress":"378
carrington lane, San Francisco, CA 18822","ringCode":"1234","favorite":true},
{"addressId":"3d3164b9-ed51-4b05-ad04-
94f7e31c3040","friendlyName":"work","addressType":"work","buildingName":"test
work","latitude":36.4333433,"longitude":-87.32323232,"fullAddress":"5803 Kennett
Pike, Suite C, Wilmington DE  19807","favorite":false}
]
```

Unsuccessful Response (JSON)

HTTP Status: **400**

```
{"responseCode":443,"responseMessage":"error retrieving address information"}
```

POST account/addresses

Creates new addresses for a user.

Resource URL

Production: https://mobile.cmtapi.com/v1/account/addresses

Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/addresses

Request Field Description

Field	DataType	Size	Required	Notes
friendlyName	String	50	Y	A friendly name for the address (used for display purposes)
buildingName	String	20	N	Optional Name of the building the address is in
addressType	String	20	N	Optional Address Type (Home, Work, etc…)
fullAddress	String	255	Y	Full Address Information
ringCode	String	255	N	Used to ring the apartment or office when driver arrives.
latitude	Double		Y	Latitude of the address.
longitude	Double		Y	Longitude of the address.
favorite	Boolean		Y	Indicates if the address is a favorite or not. (true/false)

Response Field Description

Field	DataType	Size	Required	Notes
addressId	String	100	Y	Unique Address ID

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found
444	Validation exception. See detail message.
456	Not found exception
457	Duplicate Entry
458	Persistance Error
446	Deserialization Error. Bad message format.

Example Request (POST)

POST URL: *https://mobile.cmtapi.com/v1/account/addresses*

Request (JSON)

{"friendlyName":"work","addressType":"work","buildingName":"test
work","latitude":36.4333433,"longitude":-87.32323232,"fullAddress":"5803 Kennett
Pike, Suite C, Wilmington DE 19807","favorite":false}

Successful Response (JSON)
HTTP Status: **201 (Created)**
{"addressId":"3d3164b9-ed51-4b05-ad04-94f7e31c3040"}

Unsuccessful Response (JSON)
HTTP Status: **400**
{"responseCode":444,"responseMessage":"friendlyName is required."}

GET account/addresses/:addressId

Gets address information for a specific address

Resource URL

Production: https://mobile.cmtapi.com/v1/account/addresses/:addressId

Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/addresses/:addressId

URL Parameter Description

Field	DataType	Size	Required	Notes
:addressId	String	100	Y	Unique identifier for an address

Response Field Description

Field	DataType	Size	Required	Notes
addressId	UUID		Y	Unique identifier for an address
friendlyName	String	50	Y	A friendly name for the address (used for display purposes)
buildingName	String	20	N	Optional Name of the building the address is in
addressType	String	20	N	Optional Address Type (Home, Work, etc…)
fullAddress	String	255	Y	Full Address Information
ringCode	String	255	N	Used to ring the apartment or office when driver arrives.
latitude	Double		Y	Latitude of the address.
longitude	Double		Y	Longitude of the address.
favorite	Boolean		Y	Indicates if the address is a favorite or not. (True/False)

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found

Example Request (GET)

POST URL: *https://mobile.cmtapi.com/v1/account/addresses/3d3164b9-ed51-4b05-ad04-94f7e31c3040*

Successful Response (JSON)

HTTP Status: **200 (Success)**

{"addressId":"3d3164b9-ed51-4b05-ad04-94f7e31c3040","friendlyName":"work","addressType":"work","buildingName":"test work","latitude":36.4333433,"longitude":-87.32323232,"fullAddress":"5803 Kennett Pike, Suite C, Wilmington DE 19807","favorite":false}

Unsuccessful Response (JSON)

HTTP Status: **400**

{"responseCode":442,"responseMessage":"not found."}

PUT account/addresses/:addressId
Updates a user address.

Resource URL

Production: https://mobile.cmtapi.com/v1/account/addresses/:addressId

Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/addresses/:addressId

URL Parameter Description

Field	DataType	Size	Required	Notes
:addressId	String	100	Y	Unique identifier for an address

Request Field Description

Field	DataType	Size	Required	Notes
addressId	UUID		N	Unique identifier for an address
friendlyName	String	50	Y	A friendly name for the address (used for display purposes)
buildingName	String	20	N	Optional Name of the building the address is in
addressType	String	20	N	Optional Address Type (Home, Work, etc…)
fullAddress	String	255	Y	Full Address Information
ringCode	String	255	N	Used to ring the apartment or office when driver arrives.
latitude	Double		Y	Latitude of the address.
longitude	Double		Y	Longitude of the address.
favorite	Boolean		Y	Indicates if the address is a favorite or not. (True/False)

Response Field Description

Field	DataType	Size	Required	Notes
responseCode	Integer		Y	See Appendix for list of sub codes
responseMessage	String	255	N	Detailed message

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found
444	Validation exception. See detail message.
456	Not found exception
457	Duplicate Entry
458	Persistance Error
446	Deserialization Error. Bad message format.

Example Request (PUT)

POST URL: *https://mobile.cmtapi.com/v1/account/addresses/3d3164b9-ed51-4b05-ad04-94f7e31c3040*

Request (JSON)

```
{"addressId":"3d3164b9-ed51-4b05-ad04-
94f7e31c3040","friendlyName":"work","addressType":"work","buildingName":"test
work","latitude":36.4333433,"longitude":-87.32323232,"fullAddress":"5803 Kennett
Pike, Suite C, Wilmington DE  19807","favorite":false}
```

Successful Response (JSON)
HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)
HTTP Status: **400**
{"responseCode":442,"responseMessage":"not found."}

DELETE account/addresses/:addressId

Deletes a user address.

Resource URL

Production: https://mobile.cmtapi.com/v1/account/addresses/:addressId

Sandbox: https://mobile-sandbox.cmtapi.com/v1/account/addresses/:addressId

URL Parameter Description

Field	DataType	Size	Required	Notes
:addressId	String	100	Y	Unique identifier for an address

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found

Example Request (DELETE)

DELETE URL:	*https://mobile.cmtapi.com/v1/account/addresses/3d3164b9-ed51-4b05-ad04-94f7e31c3040*

Successful Response (JSON)

HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)

HTTP Status: **400**
{"responseCode":442,"responseMessage":"not found."}

Pairing Resources

The Pairing Resources provide developers access to pairing and un-pairing functionality as well as trip data integration and payment. Pairing is required in order to integrate with CMT's TPEP data collection and reporting backend.

Resource	Description
POST /pairing	Pairs the e-hail app to a CMT vehicle.
DELETE /pairing/:pairingToken	Un-pairs the e-hail app from a CMT vehicle
PUT /pairing/:pairingToken	Updates current pairing data.

POST /pairing

Pairs an e-hail application to a vehicle for payment and trip collection and gets a pairing token (used in subsequent requests).

Resource URL

Production: https://mobile.cmtapi.com/v1/pairing

Sandbox: https://mobile-sandbox.cmtapi.com/v1/pairing

Request Field Description

Field	DataType	Size	Required	Notes
pairingCode	String	20	Y	Code to link with CMT
customerId	String	50	Y	Unique identifier for the mobile user (customer)
customerName	String	50	Y	Customer name for display
latitude	Double		Y	Latitude of device requesting the pairing token
longitude	Double		Y	Longitude of the device requesting the pairing token
callbackUrl	String	500	N	url used for callback features.
autoCompletePayment	Boolean		Y	Indicates if payment will occur automatically by the ehail provider (true) or if payment will be completed using the in-vehicle equipment (false).
autoTipPercentage	Integer		N*	Indicates the percentage tip automatically used. Valid ranges are 0 to 200. *autoTipPercentage and/or autoTipAmount is required if autoCompletePayment is enabled.
autoTipAmount	Double		N*	Indicates the amount tip automatically be used. Valid ranges are 0 to 200. *autoTipPercentage and/or autoTipAmount is required if autoCompletePayment is enabled.

Response Field Description

Field	DataType	Size	Required	Notes
pairingToken	String	30	Y	Unique pairing token used in all subsequent requests.
pairingCode	String	10	Y	Returned pairing code.
medallion	String	20	Y	Medallion
tripId	Integer		Y	Trip Identifier

driverId	Integer		Y	Driver Identifier

Error Sub-codes (HTTP 400)

Code	Description
481	The pairing code is invalid
482	Missing or invalid customer ID
483	Pairing code already in use
484	Invalid Customer Name

Example Request (POST)

POST URL: *https://mobile.cmtapi.com/v1/pairing*

Request (JSON)

```
{
        "pairingCode":"1234567",
        "customerId":"3231432232",
        "customerName":"Test Customer",
        "latitude":78.342342,
        "longitude":-43.893454,
        "callbackUrl":"https://host.appcompany.com/faredata/",
        "autoCompletePayment":true,
        "autoTipPercentage":25,
        "autoTipAmount":0.0
}
```

Successful Response (JSON)
HTTP Status: **201 (Created)**

```
{
        "pairingToken":"dg76Jkil90hgsF3gfe67873DfgghJ",
        "pairingCode":"1234567",
        "medallion":"1N42",
        "tripId":34,
        "driverId":2342344
}
```

Unsuccessful Response (JSON)
HTTP Status: **400**

```
{
        "code":101,
        "description":"missing or invalid customer id"
}
```

DELETE /pairing/:pairingToken
Un-pairs an e-hail application from a CMT vehicle.

Resource URL

Production: https://mobile.cmtapi.com/v1/pairing/:pairingToken

Sandbox: https://mobile-sandbox.cmtapi.com/v1/paring/:pairingToken

URL Parameters

Field	DataType	Size	Required	Notes
:pairingToken	String	100	Y	Pairing token received during the pairing process.

Error Sub-codes (HTTP 400)

Code	Description
481	The pairing token is invalid
482	Missing or invalid customer id
487	Already un-paired
488	Invalid vendor for un-pairing

Example Request (DELETE)

DELETE URL: *https://mobile.cmtapi.com/v1/pairing/dg76Jkil90hgsF3gfe67873DfgghJ*

Successful Response (JSON)
HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)
HTTP Status: **400**
```
{
      "code":101,
      "description":"pairing token is invalid"
}
```

PUT /pairing/:pairingToken
Augments the current pairing with updated customer, callback and auto-pay fields.

Resource URL

Production: https://mobile.cmtapi.com/v1/pairing/dg76Jkil90hgsF3gfe67873DfgghJ

Sandbox: https://mobile-sandbox.cmtapi.com/v1/pairing/dg76Jkil90hgsF3gfe67873DfgghJ

Request Field Description

Field	DataType	Size	Required	Notes
customerId	String	50	Y	Unique identifier for the mobile user (customer)
customerName	String	75	Y	Customer name for display
latitude	Double		Y	Latitude in degrees of device requesting the pairing token
longitude	Double		Y	Longitude in degrees of the device requesting the pairing token
callbackUrl	String	500	N	url used for callback features.
autoCompletePayment	Boolean		Y	Indicates if payment will occur automatically by the ehail provider (true) or if payment will be completed using the in-vehicle equipment (false).
autoTipPercentage	Integer		N*	Indicates the percentage tip automatically used. Valid ranges are 0 to 200. *autoTipPercentage and/or autoTipAmount is required if autoCompletePayment is enabled.
autoTipAmount	Double		N*	Indicates the amount tip automatically be used. Valid ranges are 0 to 200.

				*autoTipPercentage and/or autoTipAmount is required if autoCompletePayment is enabled.

Error Sub-codes (HTTP 400)

Code	Description
102	Missing or invalid customer ID
104	Invalid Customer Name
105	Invalid Lat/Lon
106	Invalid callback URL

Example Request (POST)

PUT URL: *https://mobile.cmtapi.com/v1/pairing/dg76Jkil90hgsF3gfe67873DfgghJ*

Request (JSON)
```
{
     "customerId":"321232322",
     "customerName":"Updated Customer",
     "latitude":78.342342,
     "longitude":-43.893454,
     "callbackUrl":"https://host.appcompany.com/faredata/",
     "autoCompletePayment":true,
     "autoTipPercentage":0,
     "autoTipAmount":10.35

}
```

Successful Response (JSON)
HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)
HTTP Status: **400**
```
{
     "code":101,
     "description":"pairing token is invalid"
}
```

Card on File Resources
The card on file resources are used to manage the credit card tokens received from a Card on File provider.

Resource	Description
GET /cof	Gets all cards on file
POST /cof	Creates a new card on file
DELETE /cof/:cofId	Deletes a card on file

GET /cof

Retrieves all cards that are currently on file for this account.

Resource URL

Production: https://mobile.cmtapi.com/v1/cof

Sandbox: https://mobile-sandbox.cmtapi.com/v1/cof

Response Field Description

Field	DataType	Size	Required	Notes
cofId	String	50	Y	Unique identifier of the card on file
friendlyName	String	75	Y	Friendly Name of the card on file
token	String	60	Y	The token used to authorize
cardType	String	10	Y	The card type used in the transaction
lastFour	String	4	Y	The last four digits of the card

Error Sub-codes (HTTP 400)

Code	Description
482	Missing or invalid customer ID

Example Request (POST)

POST URL: *https://mobile.cmtapi.com/v1/cof*

Successful Response (JSON)

HTTP Status: **200 (OK)**

```
[
        {
        "cofId":"8d6e3087-3c62-4e12-ac23-d811f3588e77",
        "friendlyName":"Chase Card",
        "token":"3242345rfdsgt345t4rfagret43534fegetw4r52qrfsdg425",
        "cardType":"VISA",
        "lastFour":"1111"
        },
        {
        "cofId":"b06b8072-a7db-44a3-8160-f53041f24681",
        "friendlyName":"Discover Card",
        "token":"3242345rfsgdy54tfghfjyuregetw4r52qrfsdg425",
        "cardType":"DISCOVER",
        "lastFour":"1231"
        }
]
```

Unsuccessful Response (JSON)

HTTP Status: **400**

```
{
        "code":482,
        "description":"invalid customer id"
}
```

POST /cof
Creates a new card on file

Resource URL

Production: https://mobile.cmtapi.com/v1/cof

Sandbox: https://mobile-sandbox.cmtapi.com/v1/cof

Request Field Description

Field	DataType	Size	Required	Notes
friendlyName	String	75	Y	Friendly Name of the card on file
token	String	60	Y	The token used to authorize
cardType	String	10	Y	The card type used in the transaction
lastFour	String	4	Y	The last four digits of the card

Error Sub-codes (HTTP 400)

Code	Description
482	Missing or invalid customer ID

Example Request (POST)

POST URL: *https://mobile.cmtapi.com/v1/cof*

Request (JSON)

```
{
        "friendlyName":"Chase Card",
        "token":"3242345rfdsgt345t4rfagret43534fegetw4r52qrfsdg425",
        "cardType":"VISA",
        "lastFour":"1111"
}
```

Successful Response (JSON)
HTTP Status: **201 (Created)**

Unsuccessful Response (JSON)
HTTP Status: **400**
```
{
        "code":483,
        "description":"missing or invalid customer id"
}
```

DELETE /cof/:cofId
Deletes card on file

Resource URL

Production: https://mobile.cmtapi.com/v1/cof/:cofId

Sandbox: https://mobile-sandbox.cmtapi.com/v1/cof/:cofId

URL Parameters

Field	DataType	Size	Required	Notes
:cofId	String	100	Y	The id of the card on file

Error Sub-codes (HTTP 400)

Code	Description
482	Missing or invalid customer id

Example Request (DELETE)

DELETE URL: *https://mobile.cmtapi.com/v1/cof/b06b072-a743-443a-3221-f54543ce451*

Successful Response (JSON)
HTTP Status: **200 (Success)**

Unsuccessful Response (JSON)
HTTP Status: **400**

```
{
      "code":482,
      "description":"missing or invalid customer id "
}
```

Precog Resource

Summary

The Precog resource provides access to CMT's proprietary e-hail and traffic management systems **Please note that all precog resources require a valid oauth token to be passed.**

Resource	Description
GET /precog	Gets the latest status of the precog service for the current account

GET precog

The Precog resource provides access to CMT's proprietary e-hail and traffic management systems. See the procog dev guide for more information on calling the precog resource.

Resource URL

Production: https://mobile.cmtapi.com/v1/precog

Sandbox: https://mobile-sandbox.cmtapi.com/v1/precog

Request Field Description

Field	DataType	Size	Required	Notes
type	String	15	Y	Type of request. Possible values are: status broadcast guide connect cancel-connect
init	Boolean		N	Indicates if this is the first request (true/false)
locTime	String		N	ISO 8601 Date/Time Stamp
locLat	Double		N	Location Latitude of the current request
locLon	Double		N	Location Longitude of the current request
locDesc	String	255	N	Location description (full address)
pairingToken	String	255	N	Unique token for paired vehicle/device.
gpsLat	Double		N	Current GPS Latitude
gpsLon	Double		N	Current GPS Longitude
gpsSpeed	Double		N	Current GPS Speed in KPH
gpsBearing	Double		N	Current GPS Bearing in degrees
gpsAccuracy	Double		N	Current GPS Accuracy
gpsAltitude	Double		N	Current GPS Altitude
destLat	Double		N	Destination Latitude
destLon	Double		N	Destination Longitude
destDesc	String	255	N	Destination description (full address)

Response Field Description

Field	DataType	Size	Required	Notes
interval	Integer		N	Seconds between precog requests (i.e. mobile app polling interval)
alert	Boolean		N	Directive to alert user (tone/vibrate/notification) that an event has occurred and/or there is new info. value: true/false
init	Boolean		N	Indicates that init was processed successfully.
messages				Optional. One or more messages associated with the response
text	String	255	N	message content
delay	Integer		N	seconds to wait before displaying message. a value of 0 or tag not included means display immediately
wipe	Boolean		N	Directive to wipe existing displayed and pending text messages when displaying this new message. values: **true**
choices				list of one or more choices associated with the message
label	String	50	N	how the choice is displayed to the user (e.g. "Yes" "No" "Details" "More Info" "Cancel" "Release the Hounds")
color	String	10	N	Optional color (in Hex) of the tag
actionType	String	10	N	Specifies the type of the action. (local, url, etc…)
action	String	Variable	N	resource to invoke when a choice is made – can

				be remote (e.g., http://actionurl.action.com?action) or local (e.g., showMap or showMsg:"ok it's your funeral")
features				
name	String	50	N	name of feature. values: eHail connect guide
action	String	50	N	Action taken based on associated action type
actionType	String	50	N	Type of action type message,url,html,directive (see dev guide)
mapItems				
icon	String	15	N	Name of the icon to use
label	String	50	N	Label to display on the map
locLon	Double		N	Map longitude
locLat	Double		N	Map latitude

Error Sub-codes (HTTP 400)

Code	Description
442	Account not found
444	Validation exception. See detail message.

Example Request (GET)

GET URL: http://localhost:8080/v1/precog?type=connect&locLon=-73.9778 &locLat=40.7522&gpsLon=-73.9778&gpsLat=40.7522

Successful Response (JSON)
HTTP Status: **200 (Success)**
```
{
      "init":false,
      "alert":false,
      "interval":5,
      "features":
            [{"name":"ehail","action":"{\"messages\": [{\"text\":\"no can
            do\"}]}","actionType":"message"}],

      "messages":
            [{"text":"Agatha 3 taxis have been hailed closest is 3 min away...
            driver response not guaranteed good luck
            :)","wipe":false,"choices":[]}],

      "mapItems":
            [{"icon":"taxi.png","label":"1N37","lat":40.7503,"lon":-
            73.9748},{"icon":"taxi.png","label":"1N37","lat":40.7495,"lon":-
            73.9798},{"icon":"taxi.png","label":"1N37","lat":40.7502,"lon":-73.981}]
}
```

Unsuccessful Response (JSON)
HTTP Status: **400**
```
{
      "code":444,
      "description":"type field is required"
```

```
}
```

Tokenize Resource

Summary

The Tokenize resource provides a programmatic interface to create a token for the credit card information given. **Please note that the URL used is the *payment* host and not the *mobile* host (see below).**

Resource	Description
POST /tokenize	Provides access to tokenize credit card data.
PUT /tokenize/:cardToken	Provides access to update tokenized credit card data.
DELETE /tokenize/:cardToken	Provides access to delete tokenized credit card data.

POST tokenize

This method is designed to tokenize credit card data.

Resource URL

Production: https://payment.cmtapi.com/v2/tokenize

Sandbox: https://payment-sandbox.cmtapi.com/v2/tokenize

Request Field Definitions

Field	Type	Max Len	Required	Notes
accountNumber	String	200	Y	Only required if track2Data or card on file token is not passed
expiryDate	String	10	Y	Only required if track2Data is not passed (YYMM) Format)
validateAccountInformation	Boolean		N	If true, a preauthorization is sent to verify the cardholder data to protect against fraud. The default is true.
cvv2	String	8	N	
zipCode	String	10	N	Either the 5 or 9 digit representation

Response Field Definitions

Field	Type	Max Len	Required	Notes
responseCode	Integer		Y	See Appendix A – Tokenize Response Codes for possible values
responseMessage	String	100	N	Message description
cardType	String	20	Y	Visa, MasterCard, American Express, etc.
lastFour	String	4	Y	Last four digits of the tokenized credit card number
cardOnFileToken	String	100	Y	Token to be used to call the service to use the saved card information

Example Request (POST)

POST URL: *https://payment.cmtapi.com/v2/tokenize*

POST Data   Request (JSON)

```
{
      "accountNumber":"4111111111111111",
       "expiryDate":"1504"
}
```

POST Data Response (JSON)

```
{
       "responseCode":1,
       "responseMessage":"",
       "cardType":"VISA",
       "lastFour":"1234",
       "cardOnFileToken":"abcdefghijklmnop123456"
}
```

PUT tokenize/:cardToken

This method is designed to update tokenized credit card data. **Please note that the URL used is the *payment* host and not the *mobile* host (see below).**

Resource URL

Production: https://payment.cmtapi.com/v2/ tokenize/:cardToken

Sandbox: https://payment-sandbox.cmtapi.com/v2/tokenize/:cardToken

```
"expiryDate":"1506"
}
```

Request Field Definitions

Field	Type	Max Len	Required	Notes
accountNumber	String	200	x	Only required if account number is updated. This or expiry needs to be present in request.
expiryDate	String	10	x	Only required if expiration date is updated. This or accountNumber needs to be present in request.

Response Field Definitions

Field	Type	Max Len	Required	Notes
responseCode	Integer		x	See Appendix A – Tokenize Response Codes for possible values
cardType	String	20	x	Visa, MasterCard, American Express, etc.
lastFour	String	4	x	Last four digits of the tokenized credit card number
responseMessage	String	100		Message description

Example Request (PUT)

PUT URL: *https://payment.cmtapi.com/v2/tokenize/da43fdsfdsfdsfds/*

PUT Data   Request (JSON)

```
{
      "accountNumber":"4111111111112222",
```

PUT Data Response (JSON)

```
{
      "responseCode":1,
      "responseMessage":"",
      "cardType":"VISA",
      "lastFour":"1234"
}
```

DELETE tokenize/:cardToken

This method is designed to delete tokenized credit card data. **Please note that the URL used is the *payment* host and not the *mobile* host (see below).**

Resource URL

Production: https://payment.cmtapi.com/v2/tokenize:/cardToken

Sandbox: https://payment-sandbox.cmtapi.com/v2/tokenize/:cardToken

Response Field Definitions

Field	Type	Max Len	Required	Notes
responseCode	Integer		x	See Appendix A – Tokenize Response Codes for possible values
responseMessage	String	100		Message description

Example Request (DELETE)

DELETE URL: *https://payment.cmtapi.com/v2/tokenize/da43fdsfdsfdsfds/*

Delete Token Request Field Definitions
No fields are required

DELETE Data Response (JSON)
```
{
        "responseCode":1,
        "responseMessage
}
```

Authorization Resource

Summary

The Authorization resource provides a mechanism to authorize credit card transactions for paired transactions. **Please note that all precog resources require a valid oauth token to be passed. Additionally, the URL used is the *payment* host and not the *mobile* host (see below).**

Resource	Description
GET /pairing/:pairingToken/authorize	Gets the latest status of the precog service for the current account

POST /pairing/:pairingToken/authorize

Resource URL

Production: https://payment.cmtapi.com/v2/pairing/:pairingToken/authorize

Sandbox: https://payment-sandbox.cmtapi.com/v2/pairing/:pairingToken/authorize

URL Parameters

Field	DataType	Size	Required	Notes
:pairingToken	String	100	Y	Unique pairing token received during the pairing process.

Request Field Description

Field	DataType	Size	Required	Notes
tripId	Integer		Y	Code to link with CMT
totalAmount	Integer		Y	Total amount to be authorized (this amount will be paid to the operator/driver/fleet)
encryptionKeyVersion	Integer		N	
encryptionToken	String	50	N	
encryptionAlgorithm	String	50	N	
customerReferenceNumber	String	50	N	
fare	Integer		Y	The fare amount in cents from the trip response
extras	Integer		Y	The meter extra amount in cents from the trip response
surcharge	Integer		Y	The surcharge amount in cents
tolls	Integer		Y	The toll amount in cents
tip	Integer		Y	The tax amount in cents
tax	Integer		Y	The tip amount in cents
convenienceFee	Integer		N	The convenience fee with cents
ehailServiceFee	Integer		Y	The service fee charged by the e-hail provider
currencyCode	String	5	N	Currency code for the transaction. Default is USD
accountNumber	String	50	Y	The primary account number for authorization
expiryDate	String	4	N	The expiry date in YYMM format
cvv2	String	5	N	The cvv data

zipCode	String	10	N	The zip code of the cardholder's billing address
cardOnFileToken	String	100	N	Card on file token

Response Field Description

Field	DataType	Size	Required	Notes
tripId	Integer		Y	The trip associated with the authorization
authorizationCode	String	8	Y	The authorization code
lastFour	String	4	Y	The last 4 digits of the credit card
cardType	String	10	Y	The card type used in the transaction
transactionId	Long		Y	Unique identifier used to reference the authorization
responseCode	Integer		Y	
responseMessage	String	100	Y	Additional message on response

Error Sub-codes (HTTP 400)

Code	Description
101	Invalid pairing token
601	Invalid card type
602	Card Expired
603	Lost or stolen card
604	Invalid CVV2 Code
605	Trip response payment mismatch. This occurs if the if the trip data in the payment request does not match the values from the trip data resource.
606	Invalid tip amount
607	Duplicate authorization. Same exact request received within one minute of the original request will be rejected.

Example Request (POST)

POST URL: *https://payment.cmtapi.com/v2/pairing/dg76Jkil90hgsF3gfe67873DfgghJ/authorize*

Request (JSON)

```
{
        "tripId":1223,
        "totalAmount":5382,
        "fare":3757,
        "extras":0,
        "surcharge":100,
        "tolls":900,
        "tip":525,
        "tax":50,
        "ehailServiceFee":150,
        "accountNumber":"4111111111111111",
        "expiryDate":"1605",
        "cvv2":"142"
}
```

Successful Response (JSON)
HTTP Status: **200 (Success)**
```
{
        "tripId":1223,
        "authorizationCode":"AR32564",
        "lastFour":"1111",
        "cardType":"VISA",
```

```
      "transactionId":12345678901234,
      "responseCode":0,
      "responseMessage":"Approved successfully"
}
```

Unsuccessful Response (JSON)
HTTP Status: **400**
```
{
      "code":601,
      "description":"invalid card type"
}
```

Appendix A

Tokenize Response Codes

Code	Message
0	An error occurred
1	Success
2	Token not found
3	Bad merchant token
4	Unable to decrypt merchant token
5	Invalid data (Required fields missing or data is not in valid format)
6	Card information is invalid (if the preauthorization is declined from the authorizer)
7	Invalid CVV2 (If the CVV2 information given is invalid from the authorizer)
8	Invalid AVS (If the AVS information given is invalid from the authorizer)