Payment API

Version 2.0.4

DRAFT

Confidential

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Document Summary

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Document Change History

Date of Change	Version	Reason for Change	Summary of Change	Build #	Author
Jun, 10, 2011	1.0		Payment API created	1.0	J. Backof
June 20, 2011	1.1		Added additional Level 2/3 Fields		J. Backof
August 2, 2011	1.2		Updated encryption algorithms, enc. Token and format for expiration date		J. Backof
August 5, 2001	1.3		Removed Error Code 9 From all transaction types		J. Backof
September 5, 2011	1.4		Added Transaction Type "M" – Offline Sale to authorizations. Also added Authorization Code for transaction type "M" Updated user_id to employee_id and made it a String value to allow for more flexible employee numbers.		J. Backof
November 20, 2011	1.5		Added decline scenarios.		J. Backof
April 3, 2012	2.0.0		Updated services schema to accommodate for level 2 and 3 data capture. Renamed methods to reduce confusion. Added optional service data for linkage to CMT's FleetNet Portal.		J. Golden/ J. Backof

September 17, 2012	2.0.1		Added more descriptive text around REST Calls		J. Backof
October 19, 2012	2.0.2		Included additional fields for CabConnect card processing. Included Test card data.		J. Golden
December 5, 2012	2.0.3		Correct URLs and updated OAuth section		J. Golden
February 14, 2013	2.0.4		Included truncated account number and expiration date for auth and capture responses		J. Golden

Overview

Creative Mobile Technologies has developed a RESTful API to allow developers to programmatically interface with our payment processing infrastructure. All resources use XML payloads over secure http (port 443) and are currently available to authorized CMT customers with valid merchant accounts.

Document Usage

This document was designed to be used by developers to wish to integrate with CMT's payment processing infrastructure. A basic understanding of RESTful services, XML and communications over HTTP are required.

General Information

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.

Country Codes

The country codes used are from the standard ISO 3166-1 alpha-2 specification. Please see Appendix B for supported countries or contact CMT to ensure the country is supported.

Currency Codes

The currency codes used are from the standard ISO 4217 Currency Codes. Please see Appendix B for supported currencies or contact CMT to ensure the currency is supported.

Distances

All distances are in *kilometers* unless otherwise specified.

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).

Duplicate transaction checking

CMT supports checking for duplicate transactions. When configured, CMT will validate that the combination of transaction type, customer reference number, transaction amount and last 4 of the credit card number are not repeated within the last 5 minutes. If repeated transaction(s) are sent, the transactions that are deemed duplicate will not be sent onto the bank. NOTE: The new transactions will only be checked against transactions that were approved or partially approved.

API Summary

CMT's Payment API is a RESTful service providing developers access to process credit, debit and private label cards through CMT's payment processing infrastructure.

CMT supports the following card types:
- Major Credit Cards (Visa, MasterCard, Discover, JCB, Diners, American Express)
- Pin-less Debit
- Certain Private Label Cards (contact CMT)
- Certain University Cards (contact CMT)

This API provides methods to authorize cards by passing track II swipe data (for programmatic interfaces with card readers) or account numbers and expiry dates as in the case of manual or card not present environments.

HTTP Response Codes

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

Code	Description
200	Request processed successfully. Check response codes for additional status indicators.
400	Bad request. Includes validation errors, bad XML.
401	Unauthorized. The response code is returned if: - OAuth authentication failure - Session timeout (if session is supported)
403	Forbidden. Customers will receive this response code if they try to access a method without proper authorization.
500	Server Error. Retry request or contact CMT.

Authentication

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

Authentication
To authenticate to the CMT Payment 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.

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

```
request: merchants/97b8ef25bc064bbb9eaf0e75858f5c73/authorize
Accept:[application/xml]
Authorization:[OAuth oauth_consumer_key="api-consumer-1", oauth_nonce="-
2277426177509978136", oauth_signature="5PICyq0XvXbwS2FvlAvMetaTxM0%3D",
oauth_signature_method="HMAC-SHA1", oauth_timestamp="1352825875",
oauth_version="1.0"]
Content-Type:[application/xml]
```

Merchant Token

After opening an account through CMT, each fleet will be provided with one or more merchant tokens. These tokens are specific to a merchant account and provide access to debit and credit those accounts.

Safeguarding Information

In order to ensure the security and safety of cardholder data, CMT strongly suggests storing API keys, secret keys and merchant tokens encrypted. Never share these keys/tokens with anyone.

Payment API Resources

Authorize Resource

The **Authorize** resource provides an interface to authorize credit card sales, pre-authorizations and credits. The **Authorize** resource takes as input either track II data or an account number/expiration date. Please see the field list below for a detailed description of the input parameters including types, length and if the field is optional.

Capture Resource

For pre-authorized transactions, it is necessary to perform a delayed capture. The **Capture** resource provides this interface. Authorized transactions will return a transaction ID which must be used when calling the **Capture** resource. If a capture is not sent, the pre-authorization will expire after 3 days and the transaction will have to be re-authorized.

Reverse Resource

The **Reverse** resource provides developers the ability to void or cancel authorizations. Please note that reversals are only available for pre-authorizations. Credits should be issued against sale or captured transactions.

Tokenize Resource

The **Tokenize** resource provides developers the ability to create a token in place of cardholder data, update tokenized data and delete a token. The token does not use the cardholder data to create the token so there is no way to get the cardholder information with just the token alone.

Authorization Resource

Summary

Several transaction types are available for authorizations including sales, credits, pre-authorizations, and voice authorizations depending on the business requirements.

Transaction Types

Sale
A Sale (transactionType=S) should be used if there is only one final transaction and the money should be collected immediately. Once CMT receives the transaction, it is immediately marked and will be settled on the next settlement cycle. No further action is necessary.

Pre-Authorization
Pre-authorizations (transactionType=P) should be used to put a hold on money until services are rendered. Once rendered, a Capture command (see below) should be called to release the hold and settle the funds. Please note that the time between authorization and capture can impact interchange rates. Please contact CMT for more details and best practices.

Voice Authorization
Occasionally, transactions cannot be completed via our services (Referral transactions or high dollar amounts). Customers will have to obtain bank approval via telephone. Once the authorization is obtained, the transaction can be sent through our web services as a Voice Authorization transaction (transactionType=M). Please note that authorization code is required for voice authorized transactions. Once the transaction is sent, it will be settled similar to a Sale. No further action will be necessary. Please contact CMT to learn more about how voice authorization work.

Credit
Credits can be issued through the CMT Transaction Service by specifying the transaction type of "Credit" (transactionType=C).

Additional/Optional Data

CMT supports optional data fields to support Purchase Card Level 2 and Level 3 data information as well as service data for other CMT services (trip sheet collection and reporting).

Level 2/3 Data
CMT supports passing Purchasing Card Level 2 information (such as purchase order number, tax amount, and postal codes, etc…). CMT Also supports Level 3 data and line item records which include line item details for purchases. See the description below as not card types support all fields.

AVS/CVV2 Verification

CMT supports address and card verification services. When configured, CMT will validate AVS and/or CVV2 data if passed. Please contact CMT to activate this service.

Resource	Description
POST merchants/ :merchantToken/authorize	Provides access to create authorizations, pre-authorizations, credits, and voice authorizations.

POST merchants/:merchantToken/authorize

This resource is designed to authorize credit cards by passing track II (mag stripe) or account number/expire date.

Resource URLS

Production: https://payment.cmtapi.com/v2/merchants/:merchantToken/authorize

Sandbox: https://payment-sandbox.cmtapi.com/v2/merchants/:merchantToken/authorize

Parameters

merchantToken (required) - See Merchant Token

Example Request (POST)

POST URL: *https://payment.cmtapi.com/v2/merchants/9f2ef924f1df69ba/authorize*

POST Data Request (XML)

```
<?xml version="1.0" encoding="utf-8"?>
   <AuthorizationRequest>
     <transactionType></transactionType>
     <amount></amount>
     <cardReaderMethod></cardReaderMethod>
     <encryptionKeyVersion></encryptionKeyVersion>
     <encryptedToken></encryptedToken>
     <encryptionAlgorithm></encryptionAlgorithm>
     <customerReferenceNumber></customerReferenceNumber>
     <deviceName></deviceName>
     <authorizationCode></authorizationCode>
     <currencyCode></currencyCode>
     <employeeId></employeeId>
     <track2Data></track2Data>
     <accountNumber></accountNumber>
     <expiryDate></expiryDate>
     <zipCode></zipCode>
     <cvv2></cvv2>
     <transactionDate></transactionDate>
     <cardOnFileToken></cardOnFileToken>
     <saveCardOnFile></saveCardOnFile>

     <L2Data>
       <purchaseCode> </purchaseCode>
       <destinationPostalCode></destinationPostalCode>
       <destinationCountry></destinationCountry>
```

```
      <sourcePostalCode></sourcePostalCode>
      <salesTax></salesTax>
    </L2Data>
    <L3Data>
      <purchaseOrderNumber></purchaseOrderNumber>
      <orderDate></orderDate>
      <alternateTaxAmount></alternateTaxAmount>
      <discountAmount></discountAmount>
      <freightAmount></freightAmount>
      <dutyAmount></dutyAmount>
      <taxExemptIndicator></taxExemptIndicator>
    </L3Data>
    <L23Item>
      <description></description>
      <itemCode></itemCode>
      <quantity></quantity>
      <unitOfMeasure></unitOfMeasure>
      <unitCost></unitCost>
      <amount></amount>
      <discountAmount></discountAmount>
      <taxAmount></taxAmount>
      <taxRate></taxRate>
    </L23Item>
    ... (indicates multiple elements)

    <serviceData>
      <trip>
        <jobNumber></jobNumber>
        <operatorId></operatorId>
        <driverId></driverId>
        <medallionId></medallionId>
        <pickupDate></pickupDate>
        <dropoffDate></dropoffDate>
        <pickupLatitude></pickupLatitude>
        <pickupLongitude></pickupLongitude>
        <dropoffLatitude></dropoffLatitude>
        <dropoffLongitude></dropoffLongitude>
        <passengerCount></passengerCount>
        <tripDistance></tripDistance>
        <tripDuration></tripDuration>
        <fare></fare>
        <tip></tip>
        <tolls></tolls>
        <surcharge></surcharge>
        <tax></tax>
        <extras></extras>
        <convenienceFee></convenienceFee>
      </trip>
    </serviceData>
  </AuthorizationRequest>
```

Authorization Request Field Definitions

Below is a list of all fields when invoking the Authorize resource.

Field	Type	Max Len	Required	Notes
transactionType	String	1	x	See Appendix A – Transaction Type for possible values
amount	Integer		x	Amount to authorize. See Amounts for format.
cardReaderMethod	Integer		x	See Appendix A – Card Reader Method for possible values
encryptionKeyVersion	Integer			Version of the key used in the encryption.

encryptedToken	String	20		SEND "CMT_PAYNET" Encrypted (if encryption algorithm is not 0)
encryptionAlgorithm	Integer			0=None, 1=3DES
customerReferenceNumber	String	50		Unique customer reference number. Used for duplicate transaction checking. Returned on response
deviceName	String	50		unique device or terminal id
authorizationCode	String	10		Leave empty except for Off Line Sales (type='M'). Populate with authorization code received from manual authorization (voice)
currencyCode	String	3		Defaults to USD if blank. See ISO 4217 Currency Codes spec for values.
employeeId	String	100		driver or employee id
track2Data	String	200	x	Only required if Account Number or Card on File token is not passed. Encrypted.
accountNumber	String	200	x	Only required if track2Data or card on file token is not passed. Encrypted.
expiryDate	String	10		YYMM Format
zipCode	String	10		Either the 5 digit or 9 digit representation
cvv2	String	8		
transactionDate	String			Defaults to current date and time if left blank. See ISO 8601 spec for formatting.
cardOnFileToken	String	100	x	Retrieves the card holder data based on the token. Only required if account number/expiration date or track2data is not passed.
saveCardOnFile	Char	1		If set, the card data will be saved for future processing. The cardOnFileToken will be returned in the response Y - indicates save the card on file N – (default) does not save the card on file
Level 2 Data				
purchaseCode	String	16		Used for American Express, Visa and Mastercard. Only first 10 characters are sent to American Express
destinationPostalCode	String	10		Only applicable for Visa, Mastercard and American Express (Only first 6 charactesr are sent to American Express)
destinationCountry	String	2		Only applicable for Visa and Mastercard. See ISO 3166-1 alpha-2 spec for values
sourcePostalCode	String	10		Used for American Express, Visa and Mastercard. Only first 6 characters are sent to American Express
salesTax	Integer			See Amounts for format.
Level 3 Data				
purchaseOrderNumber	String	16		Item's purchase order number
orderDate	Date			Purchase date. See ISO 8601 spec for formatting.
alternateTaxAmount	Integer			Total alternate tax for all the items in the purchase. See Amounts for format.
discountAmount	Integer			Total discount amount for all items in the purchase. See Amounts for format.
freightAmount	Integer			Total freight for all items in the purchase. See Amounts for format.
dutyAmount	Integer			Total duty amount for all items in the purchase. See Amounts for format.
taxExemptIndicator	Char	1		Indicates whether or not the purchase is tax exempt Y - purchase is tax exempt N – purchase is not tax exempt
Level 2/3 Item				CMT supports up to 4 Level 2/3 Item Records
description	String	40		Used for American Express, Visa and Mastercard
itemCode	String	12		Only applicable for Visa and Mastercard
quantity	Double			Only applicable for Visa and Mastercard

unitOfMeasure	String	40		Only applicable for Visa and Mastercard
unitCost	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
amount	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
discountAmount	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
taxAmount	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
taxRate	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
Trip Data				
jobNumber	Integer			Optional data for trip related authorizations. Required for CabConnect cards.
operatorId	Integer			Optional data for trip related authorizations. Required for CabConnect cards.
driverId	Integer			Optional data for trip related authorizations. Required for CabConnect cards.
medallionId	String			Optional data for trip related authorizations. Required for CabConnect cards.
pickupDate	Date			Optional data for trip related authorizations
dropoffDate	Date			Optional data for trip related authorizations
pickupLatitude	Double			Optional data for trip related authorizations
pickupLongitude	Double			Optional data for trip related authorizations
dropoffLatitude	Double			Optional data for trip related authorizations
dropoffLongitude	Double			Optional data for trip related authorizations
passengerCount	Integer			Optional data for trip related authorizations
tripDistance	Integer			Optional data for trip related authorizations. Distances are measured in kilometers with the last 2 digits measuring tenths of a kilometer. e.g. 6543 is 65.43 kilometers.
tripDuration	Integer			Optional data for trip related authorizations. Duration is measured in seconds.
fare	Integer			Optional data for trip related authorizations. See Amounts for format.
tip	Integer			Optional data for trip related authorizations. See Amounts for format.
tolls	Integer			Optional data for trip related authorizations. See Amounts for format.
surcharge	Integer			Optional data for trip related authorizations. See Amounts for format.
tax	Integer			Optional data for trip related authorizations. See Amounts for format.
extras	Integer			Optional data for trip related authorizations. See Amounts for format.
convenienceFee	Integer			Optional data for trip related authorizations. See Amounts for format.

POST Data Response (XML)

```xml
<?xml version="1.0" encoding="utf-8"?>
   <AuthorizationResponse>
     <transactionId></transactionId>
     <responseCode></responseCode>
     <responseMessage></responseMessage>
     <deviceName></deviceName>
     <customerReferenceNumber></customerReferenceNumber>
```

```
        <cardType></cardType>
        <authorizationDate></authorizationDate>
        <authorizationCode></authorizationCode>
        <amount></amount>
        <currencyCode></currencyCode>
        <employeeId></employeeId>
        <authTimeMillis></authTimeMillis>
        <truncatedAccountNumber></truncatedAccountNumber>
        <expirationDate></expirationDate>
    </AuthorizationResponse>
```

Authorization Response Field Definitions

Below is a list of all fields returned when invoking the Authorize resource.

Field	Type	Max Len	Required	Notes
transactionId	Long		x	Unique Transaction Identifier used to reference this transaction
responseCode	Integer		x	See Appendix A – Authorize, Capture and Reversal Response Codes for possible values
responseMessage	String	100	x	Additional message on response
deviceName	String	50	x	Unique device or terminal id passed on authorization request
customerReferenceNumber	String	50		Customer reference number passed on authorization request
cardType	String	20	x	Returns card type: AMEX DINERS CARTEBLANCHE DISCOVER ENROUTE JCB MASTERCARD VISA OTHER UNKNOWN
authorizationDate	Date		x	Date and time authorization took place
authorizationCode	String	10		Auth Code (note: this value is not unique)
amount	Integer		x	Amount that was authorized. See Amounts for format.
currencyCode	String		x	Currency of the amount authorized
employeeId	String	100		Employee ID or Driver ID passed on authorization request
authTimeMillis	Integer		x	Time (in milliseconds) it took to authorize
cardOnFileToken	String	100	x	If the saveCardOnFile indicator is set to save the card information, the token will be returned here
truncatedAccountNumber	String	10	X	The truncated account number used to authorize the transaction.
expirationDate	String	4	X	The expiration date of the card.

Capture Resource

Summary

The *capture* method provides a programmatic interface to capture (settle) credit card pre-authorizations. The *capture* method takes as input a **Capture Request** and returns a **Capture Response**. Please see the field list below for a detailed description of the input parameters including types, length and if the field is optional. Also note that when capturing a transaction, Purchase Card Level 2 and Level 3 data may optionally be passed.

Additional/Optional Data

CMT supports optional data fields to support Purchase Card Level 2 and Level 3 data information.

Level 2/3 Data

CMT supports passing Purchasing Card Level 2 information (such as purchase order number, tax amount, and postal codes, etc…). CMT Also supports Level 3 data and line item records which include line item details for purchases. See the description below as not card types support all fields.

Resource	Description
POST merchants/ :merchantToken/capture	Provides access to capture pre-authorizations.

POST merchants/:merchantToken/capture

This method is designed to capture pre-authorization transaction.

Resource URLS

Production: https://payment.cmtapi.com/v2/merchants/:merchantToken/capture

Sandbox: https://payment-sandbox.cmtapi.com/v2/merchants/:merchantToken/capture

Parameters

merchantToken (required) - See Merchant Token

Example Request (POST)

POST URL: *https://payment.cmtapi.com/v2/merchants/9f2ef924f1df69ba/capture*

POST Data Request (XML)

```
<?xml version="1.0" encoding="utf-8"?>
   <CaptureRequest>
     <transactionId></transactionId>
     <amount></amount>
     <employeeId></employeeId>
     <L2Data>
```

```
        <purchaseCode></purchaseCode>
        <destinationPostalCode></destinationPostalCode>
        <destinationCountry></destinationCountry>
        <sourcePostalCode></sourcePostalCode>
        <salesTax></salesTax>
      </L2Data>
      <L3Data>
        <purchaseOrderNumber></purchaseOrderNumber>
        <orderDate></orderDate>
        <alternateTaxAmount></alternateTaxAmount>
        <discountAmount></discountAmount>
        <freightAmount></freightAmount>
        <dutyAmount></dutyAmount>
        <taxExemptIndicator></taxExemptIndicator>
      </L3Data>
      <L23Item>
        <description></description>
        <itemCode></itemCode>
        <quantity></quantity>
        <unitOfMeasure></unitOfMeasure>
        <unitCost></unitCost>
        <amount></amount>
        <discountAmount></discountAmount>
        <taxAmount></taxAmount>
        <taxRate></taxRate>
      </L23Item>
      ... (indicates multiple elements)
</CaptureRequest>
```

Capture Request Field Definitions

Below is a list of all fields in the **Capture Request**.

Field	Type	Max Len	Required	Notes
transactionId	Long		x	Unique Transaction Identifier used to reference this transaction
amount	Integer			Amount to capture (may be different than authorized amount). If left blank, the amount authorized will be the amount captured. Currency is the same as the original transaction. See Amounts for format.
employeeId	String	100		Driver or employee id
Level 2 Data				
purchaseCode	String	16		Used for American Express, Visa and Mastercard. Only first 10 characters are sent to American Express
destinationPostalCode	String	10		Only applicable for Visa, Mastercard and American Express (Only first 6 characters are sent to American Express)
destinationCountry	String	2		Only applicable for Visa and Mastercard See ISO 3166-1 alpha-2 spec for values.
sourcePostalCode	String	10		Used for American Express, Visa and Mastercard. Only first 6 characters are sent to American Express
salesTax	Integer			
Level 3 Data				
purchaseOrderNumber	String	16		Item's purchase order number
orderDate	Date			Purchase date. See ISO 8601 spec for formatting.
alternateTaxAmount	Integer			Total alternate tax for all the items in the purchase. See Amounts for format.
discountAmount	Integer			Total discount amount for all items in the purchase. See Amounts for format.

freightAmount	Integer			Total freight for all items in the purchase. See Amounts for format.
dutyAmount	Integer			Total duty amount for all items in the purchase. See Amounts for format.
taxExemptIndicator	Char	1		Indicates whether or not the purchase is tax exempt Y - purchase is tax exempt N – purchase is not tax exempt
Level 2/3 Item				
description	String	40		Used for American Express, Visa and Mastercard
itemCode	String	12		Only applicable for Visa and Mastercard
quantity	Double			Only applicable for Visa and Mastercard
unitOfMeasure	String	40		Only applicable for Visa and Mastercard
unitCost	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
amount	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
discountAmount	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
taxAmount	Integer			Only applicable for Visa and Mastercard. See Amounts for format.
taxRate	Integer			Only applicable for Visa and Mastercard. See Amounts for format.

POST Data Response (XML)

```xml
<?xml version="1.0" encoding="utf-8"?>
   <CaptureResponse>
      <transactionId></transactionId>
      <responseCode></responseCode>
      <responseMessage></responseMessage>
      <captureDate></captureDate>
      <amount></amount>
      <currencyCode></currencyCode>
      <cardType></cardType>
      <employeeId></employeeId>
   </CaptureResponse>
```

Capture Response Field Definitions

Below is a list of all fields in the **Capture Response**.

Field	Type	Max Len	Required	Notes
transactionId	Long		x	Unique Transaction Identifier used to reference this transaction
responseCode	Integer		x	See Appendix A – Authorize, Capture and Reversal Response Codes for possible values
responseMessage	String	100		Message returned from the bank
captureDate	String		x	Date and time capture took place. See ISO 8601 spec for formatting.
amount	Integer		x	Amount that was captured. See Amounts for format.
currencyCode	String	3	x	Currency of the amount authorized
cardType	String	20	x	Returns card type: AMEX DINERS CARTEBLANCHE

					DISCOVER ENROUTE JCB MASTERCARD VISA OTHER UNKNOWN
employeeId	String	100			Employee ID or Driver ID
customerReferenceNumber	String	50			Customer reference number passed on authorization request
truncatedAccountNumber	String	10	X		The truncated account number used to authorize the transaction.
expirationDate	String	4	X		The expiration date of the card.

Reverse Resource

Summary

The *reverse* resource provides a programmatic interface to reverse credit card sales and credits for CMT customers (void). The *reverse* method takes as input a **Reversal Request** and returns a **Reversal Response**. Please see the field list below for a detailed description of the input parameters including types, length and if the field is optional. Also note that this method can only be called up until the transaction is captured (see *capture* below). Once captured, a credit must be issued via the *authorization* method (Transaction Type = C) for the amount you wish to credit.

Resource	Description
POST merchants/ :merchantToken/reverse	Provides access to reverse (void) pre-authorizations.

POST merchants/:merchantToken/reverse

This method is designed to reverse pre-authorization transaction.

Resource URL

Production: https://payment.cmtapi.com/v2/merchants/:merchantToken/reverse

Sandbox: https://payment-sandbox.cmtapi.com/v2/merchants/:merchantToken/reverse

Parameters

merchantToken (required) - See Merchant Token

Example Request (POST)

POST URL: *https://payment.cmtapi.com/v2/merchants/9f2ef924f1df69ba/reverse*

POST Data Request (XML)

```
<?xml version="1.0" encoding="utf-8"?>
```

```
  <ReversalRequest>
    <transactionId></transactionId>
    <customerReferenceNumber></customerReferenceNumber>
    <amount></amount>
    <employeeId></employeeId>
  <ReversalRequest>
```

Reversal Request Field Definitions

Below is a list of all fields in the Reversal Request.

Field	Type	Max Len	Required	Notes
transactionId	Long		x	Transaction identifier of the transaction that is to be reversed.
customerReferenceNumber	String	50	x*	Used to look up and reverse a transaction if transactionId is not specified (not recommended). Multiple voids could occur if multiple transactions have the same customer reference number.
amount	Integer			Amount to be reversed. If an amount is not given, will use the value of the retrieved transaction. Currency code is the same as the original transaction. See Amounts for format.
employeeId	String	100		Driver or employee id

POST Data Response (XML)

```
<?xml version="1.0" encoding="utf-8"?>
  <ReversalResponse>
    <transactionId></transactionId>
    <responseCode></responseCode>
    <responseMessage></responseMessage>
    <customerReferenceNumber></customerReferenceNumber>
    <cardType></cardType>
    <reversalDate></reversalDate>
    <amount></amount>
    <currencyCode></currencyCode>
    <employeeId></employeeId>
  </ReversalResponse>
```

Reversal Response Field Definitions

Below is a list of all fields in the **Reversal Response**.

Field	Type	Max Len	Required	Notes
transactionId	Long		x	Unique Transaction Identifier used to reference this transaction
responseCode	Integer		x	See Appendix A – Authorize, Capture and Reversal Response Codes for possible values
responseMessage	String	100		Message returned from the bank
customerReferenceNumber	String	50		Customer reference number passed on auth
cardType	String	20	x	
reversalDate	String		x	Date and time reversal took place. See ISO 8601

				spec for formatting.
amount	Integer		x	Amount that was reversed. See Amounts for format.
currencyCode	String	3		Currency of the amount.
employeeId	String	100		Driver or employee from the request

Tokenize Resource

Summary

The *tokenize* resource provides a programmatic interface to create a token for the credit card information given.

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

POST merchants/:merchantToken/tokenize

This method is designed to tokenize credit card data.

Resource URL

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

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

Parameters

merchantToken (required) - See Merchant Token

Example Request (POST)

POST URL: *https://payment.cmtapi.com/v2/merchants/9f2ef924f1df69ba/tokenize*

POST Data Request (XML)

```xml
<?xml version="1.0" encoding="utf-8"?>
  <TokenizeRequest>
    <accountNumber></accountNumber>
    <expiryDate></expiryDate>
  </TokenizeRequest>
```

Tokenize Request Field Definitions

Below is a list of all fields in the Tokenize Request.

Field	Type	Max Len	Required	Notes
accountNumber	String	200	x	Only required if track2Data or card on file token is not passed
expiryDate	String	10	x	Only required if track2Data is not passed (YYMM

				Format)

POST Data Response (XML)

```xml
<?xml version="1.0" encoding="utf-8"?>
   <TokenizeResponse>
      <responseCode></responseCode>
      <responseMessage></responseMessage>
      <cardType></cardType>
      <lastFour></lastFour>
      <cardOnFileToken></cardOnFileToken>
   </TokenizeResponse>
```

Tokenized Response Field Definitions

Below is a list of all fields in the **Tokenized Response**.

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

PUT merchants/:merchantToken/tokenize/:cardToken

This method is designed to update tokenized credit card data.

Resource URL

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

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

Parameters
merchantToken (required) - See Merchant Token

Example Request (PUT)

PUT URL: *https://payment.cmtapi.com/v2/merchants/9f2ef924f1df69ba/tokenize/da43fdsfdsfdsfds/*

PUT Data   Request (XML)

```
<?xml version="1.0" encoding="utf-8"?>
   < TokenizeRequest >
     <accountNumber></accountNumber>
     <expiryDate></expiryDate>
  </TokenizeRequest >
```

Update Token Request Field Definitions
Below is a list of all fields in the Update Token Request.

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.

PUT Data Response (XML)

```
<?xml version="1.0" encoding="utf-8"?>
   <TokenizeResponse>
     <responseCode></responseCode>
     <responseMessage></responseMessage>
     <cardType></cardType>
     <lastFour></lastFour>
  </TokenizeResponse>
```

Update Token Response Field Definitions
Below is a list of all fields in the **Update Token Response**.

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 |

DELETE merchants/:merchantToken/tokenize/:cardToken

This method is designed to delete tokenized credit card data.

Resource URL

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

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

Parameters
merchantToken (required) - See Merchant Token

Example Request (DELETE)

| DELETE URL: | *https://payment.cmtapi.com/v2/merchants/9f2ef924f1df69ba/tokenize/da43fdsfdsfdsfds/* |

DELETE Data Request (XML)

No XML defined

Delete Token Request Field Definitions
No fields are required

DELETE Data Response (XML)

```
<?xml version="1.0" encoding="utf-8"?>
   <TokenizeResponse>
      <responseCode></responseCode>
      <responseMessage></responseMessage>
   </TokenizeResponse>
```

Delete Token Response Field Definitions
Below is a list of all fields in the **Delete Token Response**.

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

Test Plan and Use Cases

Authorization Testing

Test #	Description	Manual	CVV2/ Zipcode	Swipe	ReadyTo Settle	Card Type	Expected Result
1	Keyed Authorization test	Y	Y	N	N	AMEX	Success
2	Keyed Authorization test	Y	Y	N	N	VISA	Success
3	Keyed Authorization test	Y	Y	N	N	MC	Success
4	Keyed Authorization test	Y	Y	N	N	DISC	Success
5	Swiped Authorization test	N	N	Y	N	AMEX	Success
6	Swiped Authorization test	N	N	Y	N	VISA	Success
7	Swiped Authorization test	N	N	Y	N	MC	Success
8	Swiped Authorization test	N	N	Y	N	DISC	Success
9	Keyed Authorization test without zipcode and cvv2	Y	N	N	N	AMEX	Success
10	Keyed Authorization test without zipcode and cvv2	Y	N	N	N	VISA	Success
11	Keyed Authorization test without zipcode and cvv2	Y	N	N	N	MC	Success
12	Keyed Authorization test without zipcode and cvv2	Y	N	N	N	DISC	Success
13	Authorization ready to settle test	Y	N	N	Y	AMEX	Should settle in the next settlement run
14	Authorization not ready to settle test	Y	N	N	N	AMEX	Should not settle until settle authorization is called

Triggering Declines

Use the following amounts with the specified card type/card reader method to trigger declines in staging.

Visa Credit purchase (Swiped) - $777.62
Visa Credit purchase (Manual) - $777.14

MC Credit purchase (Swiped) - $777.43
MC Credit purchase (Manual) - $777.51

Discover Credit purchase - $777.14

JCB Credit purchase - $777.43

AMEX Credit purchase (Swiped) - $771.01
AMEX Credit purchase (Manual) - $771.11

Appendix A

Authorize, Capture and Reversal Response Codes

Code	Message
-1	Unprocessed
0	An error occurred
1	Approved
2	Declined
10	Partial approval
20	Invalid CVV2
21	No AVS match
99	Processor error

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)

Transaction Type

Code	Value
S	Sale
P	Pre-authorization (requires capture)
C	Credit
M	Offline sale (Voice authorization)

Card Reader Method

Code	Country
0	Swipe
1	RFID Tap
2	Manual (keyed)

Appendix B

Supported Countries

United States - US

Supported Currencies

US Dollar – USD

Appendix C

Supported Card Type Transactions

	Visa, Mastercard, Discover, American Express	CabConnect Private Label	UGryd Private Label
Sale	X	X	X
Pre-authorization (requires capture)	X		
Credit	X		X
Offline sale (Voice authorization)	X		
Capture	X		
Void	X	X	X

Appendix D

Test Account Information

Card Type	Track 2 Data/Account & Expiry Date	Zip Code	AVC/CVV/CVV2
Visa	4012000033330026=160410100000639	00000	135
Mastercard	5424180279791732=160410100000639	00000	135
American Express	341092936591002=13051010293 0007	55555	1002
Discover	6011000259505851=49121011111 9991111	00000	111