



## Functional Specification

# WAY4 MasterCom Online API. Functional Specification

03.51.30

15.06.2020

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This document is the specification for the WAY4 MasterCom Online API solution based on the WAY4 Dispute Assistant R2 module. The document describes solution functionality.

The following notation is used in the document:

- Field labels in screen forms are shown in *italics*.
- Key combinations are shown in angular brackets, for example, <Ctrl>+<F3>.
- Names of screen form buttons and tabs are shown in square brackets, for example, [Approve].
- Sequences for selecting user menu items or context menu items are shown using arrows as follows: "Issuing → Contracts Input & Update".
- Sequences for selecting system menu items are shown using arrows as follows: Database => Change password.
- Variables that differ for each local instance, such as directory and file names, as well as file paths are shown in angular brackets, as in <OWS\_HOME>.

Warnings and information are marked as follows:



Warnings about potentially hazardous situations or actions.



Messages with information about important features, additional options, or the best use of certain system functions.

# 1. Purpose

In 2019, Mastercard went live with new rules for generating dispute documents and delivering these documents to payment system members. These rules are called Dispute Resolution Initiative (DRI).

Pursuant to DRI, a bank employee initiates a dispute cycle by contacting the Mastercard Claim Manager (MCCM) site through an interactive interface.

MasterCom Online API (MCOM API) – Mastercard online dispute interface. MCOM API replaces the interactive interface with a software one. It allows sending and receiving dispute documents and attachments, retrieving information about disputed transactions, and interacting with Mastercard officials.

The WAY4 MasterCom Online API (WAY4 MCOM API) solution expands the standard functionality for dispute documents processing with the WAY4 Dispute Assistant R2 module (hereinafter "Dispute Assistant" or the "Dispute Assistant module").

The WAY4 MCOM API solution for the MCCM server is supported for issuing and acquiring. A dedicated MCOM API module on the Transaction Switch (TS) platform provides two-way interaction between the Dispute Assistant module and the MCCM server with minimum latency. All information exchange: inward and outward questionnaires, explanations, and details is available in the Dispute Assistant interface.

WAY4 MCOM API functionality is available in WAY4 Manager and WAY4 Web.

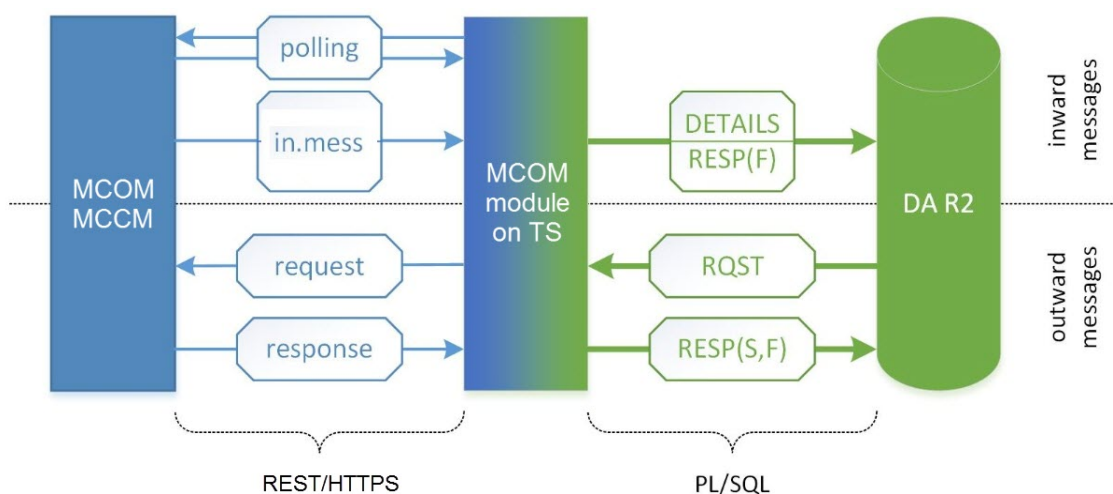
WAY4 MCOM API requires a separate license. For information about purchasing this solution, contact OpenWay.

## 2. Solution architecture

This section describes WAY4 MCOM API dataflow and data storage.

### 2.1 Dataflow

The WAY4 MCOM API solution consists of the following main components and data streams shown in the figure.



#### WAY4 MCOM API dataflow

Main components are the following:

- MCOM MCOM – the online API to the MCOM server.
- MCOM module on TS – the MCOM API module on the WAY4 Transaction Switch platform (Transaction Switch MCOM API module).
- DA R2 – the Dispute Assistant module. This module can automate some dispute cycle operations on both the issuing and acquiring side. The Dispute Assistant module allows a dispute cycle to be opened manually based on a client's claim and automatically based on the results of processing a transaction document or incoming dispute document. The module can determine the rules for each step (stage) of a dispute cycle according to preset parameters. However, at any step of a dispute cycle, a user may change the parameters manually.

#### 2.1.1 Inward messages

The Transaction Switch MCOM API module continuously polls special entities (called "queues") on the MCOM server to get information notifications about inward dispute documents: inward retrieval requests (RRs), chargebacks (CBKs), second presentments (2PRSs), and so on, and inward information notifications (e.g. the other side recalled its dispute document). When the module receives such an information notification, it tries to get all the details about this inward message and then initiates creation of a new inward document in the Dispute Assistant module. Documents created in

this flow have a SOURCE\_CODE with the "\_DTLS" suffix (e.g. MCOM\_CHBK\_QNR\_DTLS). To match the document with a case, the "EXT\_CASE\_ID" field from the document is compared with the "EXT\_CASE\_IDT" field of existing cases.

## 2.1.2 Outward messages

The Transaction Switch MCOM API module continuously polls the Dispute Assistant API to get information about outward messages to be sent to MCCM. Outward documents are created in the Dispute Assistant module and have a TARGET\_CODE with the "\_RQST" suffix (e.g. MCOM\_CHBK\_ACPT\_RQST). They have TARGET\_CHANNEL="c" ("MCOM MCCM") and OUTWARD\_STATUS="N" ("To be sent").

When the Transaction Switch MCOM API module finds such a document, it tries to initiate a corresponding MCOM request. On receiving an MCOM response, the Transaction Switch MCOM API module initiates creation of an inward document in the Dispute Assistant module. Documents created in this flow have a SOURCE\_CODE with the "\_RESP" suffix (e.g. MCOM\_CHBK\_ACPT\_RESP).

When synchronous request processing is successful:

- request (RQST) document receives:
  - OUTWARD\_STATUS="Y" ("Sent").
  - SOURCE\_REG\_NUM=ID assigned by MCCM.
- response (RESP) document receives:
  - REASON\_CODE="S" ("Success").

When synchronous request processing fails:

- request (RQST) document receives:
  - OUTWARD\_STATUS="J" ("Rejected").
- response (RESP) document receives:
  - REASON\_CODE="F" ("Failure").
  - linked Tag-Value ADDENDUM with type "M0" ("MCOM ERROR Status") (for more information, see the section "[Data storage](#)").

## 2.2 Data storage

### 2.2.1 Message documents (Object Role="MSG\_DOC")

The WAY4 MCOM API solution uses a dedicated role for case documents – "MSG\_DOC" (similar to WAY4 RTSI solution). These documents reflect (and sometimes contain as Tag-Value addenda) original MCOM messages sent to and received from the MCOM API. Documents with Object Role="MSG\_DOC" are stored in the DOC table but have the following specific characteristics:

- message documents are **not** processed by the posting procedure.
- the "TRANS\_TYPE" field is filled in with specific Transaction Types for message documents.

- the "TRANS\_DETAILS" field indicates the type of MCOM message (e.g. MSG\_CHBK\_ACPT).
- their "TARGET\_CHANNEL" (for outward) or "SOURCE\_CHANNEL" (for inward) field is filled in with the value "c" (Mastercard MCCM).
- their "TARGET\_CODE" (for outward) or "SOURCE\_CODE" (for inward) field is filled in with the code of the inward or outward message (e.g. MCOM\_CHBK\_QNR\_DTLS or MCOM\_CHBK\_ACPT\_RQST).
- they may have one or more linked Tag-Value addenda (see below).

Some (not all) fields of message documents may be filled in according to the specifics of the particular MCOM message type, but in general most of the information is stored in linked Tag-Value addendum.

## 2.2.2 Tag-Value addenda

Since all interaction with the MCOM API is via JSON messages, in many cases the WAY4 MCOM API solution stores original objects, converted to Tag-Value format. These Tag-Value objects are placed in ADDENDUM\_DATA, a dedicated table in the WAY4 database.

Tag-Value addenda are linked to documents with the "MSG\_DOC" role. More than one addendum can be linked to a single message document. A single message document may have Tag-Value addenda of different types. All response message documents have a Tag-Value addendum with the "M0" type ("MCOM ERROR Status") for unsuccessful results.

## 2.2.3 Binary addenda

All attachments (PDFs, JPEGs, TIFFs, etc.) sent and received when interacting with the MCOM API are stored as binary objects in the "IMGLOB" field of the ADDENDUM\_DATA table (BLOB). For binary addenda, ADDENDUM\_TYPE="VZ" is set.

MCOM API technical requirements for attached files are specified in the table below.

*MCOM API technical requirements for attached files*

Requirement	Description
File Name	File names must agree with conventional ASCII standards. Refer to <a href="http://www.asciitable.com/">http://www.asciitable.com/</a>

Requirement	Description
Supported document file types	<ul style="list-style-type: none"> <li>• PDF</li> <li>• JPEG</li> <li>• JPEG2000</li> <li>• TIFF Uncompressed</li> <li>• TIFF Huffman</li> <li>• TIFF G3 Fax</li> <li>• TIFF G4 Fax</li> <li>• TIFF LZQ</li> <li>• TIFF PACK</li> <li>• TIFF LZW</li> <li>• TIFF 2D</li> <li>• TIFF 3D</li> <li>• TIFF JPG</li> <li>• TIFF ABIC</li> <li>• TIFF ABIC BW</li> <li>• TIFF G4 FAX FO</li> <li>• TIFF JBIG</li> <li>• TIFF G4 FAX STRIP</li> <li>• TIFF JPEG7</li> <li>• CCITT G3</li> <li>• CCITT G4</li> <li>• CCITT G4 FO</li> <li>• CCITT G3 FO</li> <li>• WINFAX</li> <li>• NCR</li> </ul>
Document restrictions	<p>MCOM API supports document uploads with the following restrictions:</p> <ul style="list-style-type: none"> <li>• the file name of each document must be limited to 16 or fewer characters.</li> <li>• the file name of each document must contain only numbers and Latin letters.</li> <li>• the file name of each document must not contain special characters like &amp;, %, #.</li> <li>• the file name of each document must not contain account information like primary account numbers.</li> <li>• the total size of documents uploaded to an event within a claim must not be larger than 14.5 MB.</li> <li>• the resolution of any raster (pixel-based) file must not exceed 300 PPI.</li> <li>• the total size of any raster (pixel-based) file must not exceed 30,000,000 pixels.</li> </ul>

## 2.2.4 User interface form to view addendum data

The "ADDENDUM\_TYPE" field has a unique code (e.g. "M1" or "M6") indicating the JSON datatype of a stored JSON object. This field is used for choosing the correct form to view or edit (if allowed) the Tag-Value object.

The list of addenda and their content can be viewed in the user interface form:



- **in WAY4 Manager:** the "Case Details" window → the "All docs" tab → the "Addendum Data" tab.

New Activity														
Activities	Is Aut...	Request C...	Trans Type	Trans Condition	Trans Cond Details	Acq Ref No...	Target Contract	Auth Code	Trans Details	Amount	Fee	Currency	Trans Amou...	Trans Curr...
1	Fin	Advice	Retail	POS Card Read	POS,TERM,TERM,T...	1234567890...	00144C_JSS	444444	TEST OWS	-123.00	0.00	USD	123.00	USD
2	Fin	Advice	Retail Retr	POS Card Read	POS,TERM,TERM,T...	1234567890...	999999994		MSG_CR_CASE	0.00	0.00	USD	0.00	USD
3									MSG_FF_QNR	0.00	0.00	USD	0.00	USD
4			Fulfillment Qnr			1234567890...			MSG_CHK_QNR	0.00	0.00	USD	0.00	USD
5			Fulfillment Qnr			1234567890...			MSG_ZPRS_QNR	0.00	0.00	USD	123.00	USD
6			Chargeback Qnr			1234567890...			MSG_ZPRS_QNR	0.00	0.00	USD	0.00	USD
7		Advice	Representation Qnr			1234567890...			MSG_ZPRS_QNR	0.00	0.00	USD	0.00	USD
8			Representation Qnr			1234567890...			MSG_ZPRS_QNR	0.00	0.00	USD	0.00	USD

Full Info - M-Transaction - Doc Messages									
Fraud Complaint Docs	Addenda	Addendum Data	Dispute Info	Auth Data	Original Data	Exception Requests	Properties		
Group Code	Addendum Type	Addendum SubType	External Identifier	Seq #	Summary			Text Data Format	Image Data Format
MCOM_API	Claim			0				Tag-Value	
MCOM_API	Retrieval Details			0				Tag-Value	
MCOM_API	Chargeback Details			1				Tag-Value	

WAY4 Manager user interface form to view addendum data

The fields indicated in red rectangles in the screenshot above contain the following information:

1. Type of the message document.
2. Human-readable name (e.g. "Retrieval Details") of the addendum type (e.g. "M1" or "M6").
3. Extra parameters required for editing the form but absent in Tag-Value data. The values are calculated by the Dispute Assistant module.
4. If necessary, the "Summary" field that can be calculated by a custom procedure.

Currently, the above form is the only place where all Read-Only Tag-Value forms can be opened (by clicking on the required addendum).

Edit-enabled Tag-Value forms can be opened in the "Case Details" form (the "New activity" tab).

- **in WAY4 Web:** the "Case Details" window → the "Documents" tab → the "Addendum Data" tab.

Home - Dispute Management Workbench - View Case [Case D3643]									
VIEW CASE									
<b>SEGMENT</b> Domain Category Dispute Domain Dispute Standard Domain <b>GENERAL</b> Case Name Case Number D3643 Reason Priority High Entry Mode Show Card Number Add Comment More									
DOCUMENTS									
Transaction Attributes • Activity History • Parameters • Client • Contract • Documents • Case Amounts • Files •									
4 ROWS TRANSACTION DATE TRANSACTION DETAILS 19/08/19 00:00:00 MSG_CHK_QNR 19/08/19 00:00:00 MSG_SAFE_RCMD 19/08/19 00:00:00 MSG_SAFE_RCMD 19/08/19 00:00:00 MSG_CR_CASE 19/08/19 00:00:00 MSG_CR_CASE 19/08/19 00:00:00 MSG_CR_CASE									
ADDENDUM DATA									
Document Details • Addendum Data •									
4 ROWS GROUP CODE ADDENDUM TYPE MCOM_API Authorization Summary MCOM_API Clearing Summary MCOM_API Transaction - Clearing MCOM_API Transaction - Authorization									
DETAILS 47 ROWS									
NAME VALUE cardAcceptorBusinessCode 3411 dataRecord 1 cardAcceptorPostalCode TEST ZIP walletIdentifierMdes 101 installmentPaymentDataInterestRate 23 cardAcceptorTerminalId 73429189 transactionCategoryIndicator 02 partnerIdCode PDS190 currencyExponentCardholderBilling 2 cardCaptureCapability 9 settlementData 1 cardAcceptorUrl www.yoururl.com receivingInstitutionIdCode 2202 cardAcceptorCity TEST CITY cardAcceptorClassificationOverrideIndl... N cardDataOutputCapability 0 forwardingInstitutionIdCode 5258 terminalOperatingEnvironment 2									

WAY4 Web user interface form to view addendum data

The fields indicated in red rectangles in the screenshot above contain the following information:

1. Type of the message document.
2. Human-readable name (e.g. "Retrieval Details") of the addendum type (e.g. "M1" or "M6").

## 2.2.5 Legacy documents processing

Some types of documents (namely SAFEs and FCs) that are not reflected as message documents are stored in the WAY4 database using legacy rules for storage:

- the MCOM strategy uses activities with the same value in the *Program Code* field but with an additional parameter "OC=c;" (Outward\_Channel="Mastercard\_MCCM") in the *Parm List* field.
- outward documents initiated by the aforementioned activity are identical to legacy documents except they have a tag in the "ADD\_INFO" tagged field "OC=c;" that is used to filter these documents from legacy outward pipe processing.
- the Transaction Switch MCOM API module continuously polls the Dispute Assistant API to get information about this type of outward document to be sent to MCCM.
- no RQST or RESP document is created (there is no dedicated document about the successful sending of a request for the case).
- for synchronous rejects, a legacy reject document (Rejected Item) is created.
- when reject items are posted, a legacy system activity (e.g. "Accepted SAFE Reject") is initiated.
- since there are no message documents linked to the case for these legacy documents, it is technically impossible to link an Tag-Value addendum with type "M0" ("MCOM ERROR Status") to them, and error status (if any) is put in the appropriate fields of the request document.



Retrieval Requests are processed in a new way (with documents that have the "MSG\_DOC" role).

## 3. Functionality

This section describes activities on the issuer's and acquirer's sides, as well as general activities on both sides. It also provides an overview of the process for sending notifications by Mastercard to payment system members.

### 3.1 Workflows

#### 3.1.1 Issuer's side

Workflow on the issuer's side.

Process	Activities
<b>Case creation</b>	Create Ext Case Request (Iss)
	Accepted Create Ext Case Response (Iss)
	Create Ext Case Reversal Request (Iss)
	Accepted Ext Case Reversal Response (Iss)
<b>Retrieval Requests</b>	Create MCom Retrieval Request Recommendations Request (Iss)
	Create MCom Retrieval Request Request (Iss)
	Create MCom Retrieval Request Reversal Request (Iss)
	Accepted MCom Retrieval Request Recommendations (Iss) Accepted MCom Retrieval Request Response (Iss) Accepted MCom Retrieval Request Reversal Response (Iss)
<b>Fulfillment receiving</b>	Accepted Fulfillment Details (Iss)
<b>Sending FF Response</b>	Create MCom Fulfillment Response Request (Iss)
	Accepted MCom Fulfillment Response Response (Iss)
<b>Fraud Reporting</b>	Create MCom Fraud Complaint Recommendations Request (Iss)
	Create MCom Fraud Report (Iss)

Process	Activities
	Accepted MCom Fraud Complaint Recommendations Response (Iss) Accepted Fraud Report Reject (Iss)
Chargeback	Create Chargeback Questionnaire Request (Iss) Create MCom Chargeback Recommendations Request (Iss)
	Accepted Chargeback Questionnaire Response (Iss) Accepted MCom Chargeback Recommendations Response (Iss)
	Create Chargeback Questionnaire Reversal Request (Iss)
	Accepted Chargeback Questionnaire Reversal Response (Iss)
2nd Presentment	Accepted 2nd Presentment Questionnaire Details
	Create 2nd Presentment Acceptance Request (Iss)
	Accepted 2nd Presentment Acceptance Response (Iss)
	Accepted 2nd Presentment Reversal Questionnaire Details (Iss)
Arbitration Chargeback	Create Arbitration Chargeback Recommendations Request (Iss) Create Arbitration Chargeback Questionnaire Request (Iss)
	Accepted Arbitration Chargeback Recommendations Response (Iss) Accepted Arbitration Chargeback Questionnaire Response (Iss)
	Create Arbitration Chargeback Questionnaire Reversal Request (Iss)
	Accepted Arbitration Chargeback Questionnaire Reversal Response (Iss)

### 3.1.2 Acquirer's side

Workflow on the acquirer's side.

Process	Activities
External Case Details	Accepted Create Ext Case Details (Acq)
Retrieval Requests	Accepted Retrieval Request Details (Acq)

Process	Activities
<b>Fulfillment</b>	Create MCom Fulfillment Request (Acq)
	Accepted MCom Fulfillment Response (Acq)
<b>Chargebacks</b>	Accepted Chargeback Questionnaire Details (Acq)
	Create Chargeback Acceptance Request (Acq)
	Accepted Chargeback Acceptance Response (Acq)
	Accepted Chargeback Reversal Questionnaire Details (Acq)
<b>2nd Presentments</b>	Create 2nd Presentment Recommendations Request (Acq)
	Create 2nd Presentment Questionnaire Request (Acq)
	Accepted 2nd Presentment Recommendations Response (Acq)
	Accepted 2nd Presentment Questionnaire Response (Acq)
<b>Arbitration Chargebacks</b>	Create 2nd Presentment Questionnaire Reversal Request (Acq)
	Accepted 2nd Presentment Questionnaire Reversal Response (Acq)
	Accepted Arbitration Chargeback Questionnaire Details (Acq)
	Create Arbitration Chargeback Acceptance Request (Acq)
	Accepted Arbitration Chargeback Acceptance Response (Acq)
	Accepted Arbitration Chargeback Reversal Questionnaire Details (Acq)



A dispute officer must prepare a whole set of documents by the time a financial document is sent. Sending additional documents in response to 1CBK/2PRS/2CBK is not supported.

### 3.1.3 Both sides - Issuer and Acquirer

#### 3.1.3.1 Originator

Process	Activities
<b>Creating case</b>	Create MCOM Pre-Arbitration Request Create MCOM Pre-Compliance Request
<b>Pre-Arbitration (PARB) / Pre-Compliance (PCPL)</b>	Accepted Pre-Arbitration Response Accepted Pre-Compliance Response
<b>Arbitration (ARB) / Compliance (CPL)</b>	Create MCOM Arbitration Request Create MCOM Compliance Request
	Accepted Arbitration Response Accepted Compliance Response
<b>Rebuttal</b>	Create Pre-Arbitration Rebut Request Create Pre-Compliance Rebut Request
	Accepted Pre-Arbitration Rebut Response Accepted Pre-Compliance Rebut Response
	Create Arbitration Rebut Request Create Compliance Rebut Request
	Accepted Arbitration Rebut Response Accepted Compliance Rebut Response
<b>Escalating the case</b>	Create Pre-Arbitration Escalate Request Create Pre-Compliance Escalate Request
	Accepted Pre-Arbitration Escalate Response Accepted Pre-Compliance Escalate Response
<b>Withdrawing</b>	Cancel Pre-Arbitration & Return Cancel Pre-Arbitration & Continue Cancel Pre-Compliance & Return Cancel Pre-Compliance & Continue
	Accepted Pre-Arbitration Reversal Response Accepted Pre-Compliance Reversal Response
	Cancel Arbitration & Continue Cancel Compliance & Continue

Process	Activities
	Accepted Arbitration Reversal Response Accepted Compliance Reversal Response

### 3.1.3.2 Recipient

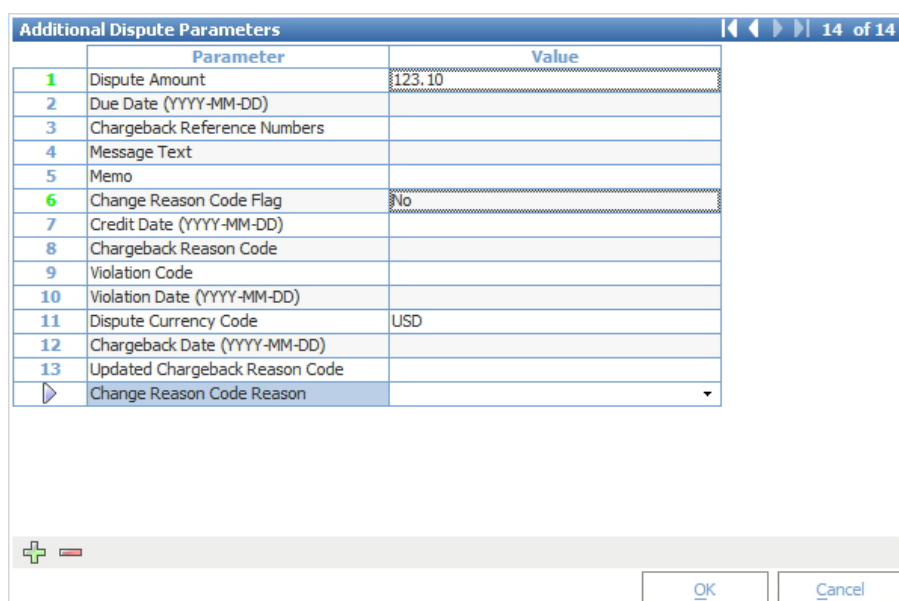
Process	Activities
<b>Rebuttal</b>	Create Pre-Arbitration Response Rebut Request Create Pre-Compliance Response Rebut Request
	Accepted Pre-Arbitration Response Rebut Response Accepted Pre-Compliance Response Rebut Response
	Create Arbitration Response Rebut Request Create Compliance Response Rebut Request
	Accepted Arbitration Response Rebut Response Accepted Compliance Response Rebut Response
<b>Accepting</b>	Create Pre-Arbitration Response Acceptance Request Create Pre-Compliance Response Acceptance Request
	Accepted Pre-Arbitration Response Acceptance Response Accepted Pre-Compliance Response Acceptance Response
	Create Arbitration Response Acceptance Request Create Compliance Response Acceptance Request
	Accepted Arbitration Response Acceptance Response Accepted Compliance Response Acceptance Response
<b>Rejection</b>	Create Pre-Arbitration Response Reject Request Create Pre-Compliance Response Reject Request
	Accepted Pre-Arbitration Response Reject Response Accepted Pre-Compliance Response Reject Response
	Create Arbitration Response Reject Request Create Compliance Response Reject Request

Process	Activities
	Accepted Arbitration Response Reject Response Accepted Compliance Response Reject Response

## 3.2 Outward documents

### 3.2.1 Forms for outward documents

All MCOM API forms for outward documents, except "Create Ext Case Request", are grid-style.



Additional Dispute Parameters		Value
1	Dispute Amount	123.10
2	Due Date (YYYY-MM-DD)	
3	Chargeback Reference Numbers	
4	Message Text	
5	Memo	
6	Change Reason Code Flag	No
7	Credit Date (YYYY-MM-DD)	
8	Chargeback Reason Code	
9	Violation Code	
10	Violation Date (YYYY-MM-DD)	
11	Dispute Currency Code	USD
12	Chargeback Date (YYYY-MM-DD)	
13	Updated Chargeback Reason Code	
14	Change Reason Code Reason	

#### The MCOM API outward document form

The set of parameters to be displayed in the form is specified by the code of the outward document. This code is stored in the SY\_HANDBOOK table's "FILTER" field for the "NEW\_CM\_CASE\_ADD\_PARMS" handbook type and consists of two characters:

- the first character is the "Chain Type" code (e.g. "Q" – for Retrieval Request).
- the second is the channel code ("c" – for MCOM API).

Each parameter control can be either a free form edit or drop-down list (the latter is marked with "N" in the "FILTER3" field of the SY\_HANDBOOK table).

If the parameter can be set to only one value of a predefined set, then this set is specified by the code of parameter in the SY\_HANDBOOK table's "FILTER" field for the "NEW\_CM\_CASE\_ADD\_PARMS\_VAL" handbook type.

### 3.2.2 Mastercard recommendations support

Mastercard provides recommendation functionality for the following types of outward documents:



- Retrieval Request
- Chargebacks (1CBK, 2PRS, 2CBK)
- Fraud Report
- Fee Collection

For these types of outward documents, MCOM API via a special request provides a restricted set of possible values (narrower than the full set) for each supported parameter. The result is case-specific, it means that restriction of a value set is based on the particular case's parameters.

These special requests can be initiated automatically or manually (it depends on strategy logic) by calling a special manual activity "Create <type of outward document> Recommendation Request" (e.g. "Create Chargeback Recommendation Request"). If the request is successful, then the "<type of outward document> Recommendation Response" (e.g. "Chargeback Recommendation Response") is attached for the case with a Tag-Value addendum (M8-M11 correspondingly).

If the corresponding main activity (e.g. "Create Chargeback Questionnaire Request") has a "RCMD=Y;" parameter and there is at least one corresponding recommendation response (e.g. "Chargeback Recommendation Response") for the case, then the set of possible values for affected parameters is displayed from recommendation data (temporarily extracted to the TVF\_DATA table) rather than the set specified by the code of the parameter from the "CODE" field of the SY\_HANDBOOK table.

If the main activity has a "RCMD=Y;" parameter but corresponding successful recommendation response is not found, then the set of possible values is displayed the same way as if there is no "RCMD=Y;" parameter in the activity.

It is possible to have more than one successful recommendation response of the same type for a case. The Dispute Assistant engine always uses the latest one.

### 3.3 Working with dispute financials

According to DRI, the bank initiates the next step of a dispute cycle by using an interactive (Web) or software (MCOM API) interface. After the bank's employee has contacted the MCCM website and Mastercard has approved the validity of the next step, a financial document can be created automatically by the MCCM server with an extra notification to the initiator's clearing subsystem.

When a notification is received about a dispute financial sent by MCCM on behalf of the bank, the clearing subsystem creates a financial document that is not sent to the payment system but is used for accounting. Also at this time, the clearing subsystem initiates a system activity for the Dispute Assistant module: "Accepted RR/RR Rev/FF/CBK/CBK Rev/2PRS/2PRS Rev/Arb CBK/Arb CBK Rev/FC/FC Rev Notification". This activity can be used in the customer's MCOM strategy to synchronize MCOM requests with financial confirmations generated by Mastercard, if required.

## 3.4 Use cases

### 3.4.1 Use case for inward message – incoming 2nd Presentment (issuer-side)

- The Transaction Switch MCOM API module polls (among others) the "Issuer Re-presentment Unworked" MCOM API queue, reading all its content every 30 minutes. Usually the queue contains from tens to several hundreds of records depending on the intensity of a member's dispute activity. For every record in the queue:
  - The Transaction Switch MCOM API module calculates a unique key based on *Case Number*, *Current Case Status* and *Date of Last Status Change*.
  - The key is checked against duplicates using COMS\_LOG standard functionality (usually, no more than 5 new records are discovered).
- For every new record, the Transaction Switch MCOM API module calls the dsp\_sys.PUT\_MSG\_DOC() Dispute Assistant API procedure to create a new message document (Object Role="MSG\_DOC") with Message Code="MCOM\_2PRS\_QNR\_DTLS". The main addendum "M3" (Claims.Retrieve) is sent by the Transaction Switch MCOM API module to the Dispute Assistant module directly within the parameters of the dsp\_sys.PUT\_MSG\_DOC() call; all other addenda (including "M4" for Claims.Retrieve/ChargebackDetails and "VZ" for supporting documents, if they exist), are attached to the created message document via separate call(s) of dsp\_sys.ADD\_MSG\_ADDENDUM().
- The Dispute Assistant module searches for a case using "MCOM Claim ID" (this value is stored in the "CM\_CASE.EXT\_CASE\_IDT" field for every DRI case) and attaches the created document to the case that was found.
- The Dispute Assistant module initiates the system activity "Accepted 2nd Presentment Questionnaire Details (Iss)", thereby transferring the case to the next step according to the strategy (the "Accepted 2nd Presentment" step in the standard strategy).
- The Dispute Assistant module user gets a case in a step requiring its manual processing and can review incoming documents on the "Addendum Data" tab of the "Case Details" → "All docs" form and then the "Chargeback Details" link to "M4" addendum or "View Image" link to "VZ" addendum (addenda), if they exist.

### 3.4.2 Use case for outward message – outgoing 2nd Presentment (acquirer-side)

- The Dispute Assistant module user initiates a manual "Create 2nd Presentment Request" activity in the Dispute Assistant module.
- By clicking the "Complete" link on the "New Activity" screen, the new message document gets Outward Status="To be sent". At this moment, the document becomes available in the dsp\_sys.GET\_MSG\_DOC\_TO\_SEND() pipelined procedure.
- The case is automatically transferred to the next step according to the strategy (the "Waiting for Final Chargeback Details" step in the standard strategy).

- The Transaction Switch MCOM API module calls (among others) the `dsp_sys.GET_MSG_DOC_TO_SEND()` pipelined procedure. For every new record, the Transaction Switch MCOM API module detects the required logic for processing based on outward Message Code (MCOM\_2PRS\_QNR\_RQST in this scenario). If a document type allows supporting documents to be attached (this is true for "2ndPresentment Request"), the Transaction Switch MCOM API module also retrieves "VZ" addendum for the document via the `dsp_sys.GET_IMG_ADM_TOSEND()` pipelined procedure.
- The Transaction Switch MCOM API module compiles a JSON request and waits for a synchronous answer from the MCCM server.
- When the response is received, the Transaction Switch MCOM API module calls the `dsp_sys.SET_MSG_DOC_RESP()` Dispute Assistant API procedure to create a new message document (Object Role="MSG\_DOC") for the response with Message Code="MCOM\_2PRS\_QNR\_DTLS". The status of the response is put into one of the parameters and is placed in a separate "M0" addendum automatically by the Dispute Assistant module. The status of the response is also put into REASON\_CODE of the MCOM\_2PRS\_QNR\_RESP document (values are "S" for "Success", or "F" for "Failure").
- The Dispute Assistant module initiates the system activity "Accepted 2ndPresentment Response" (this is a technical response) transferring the Response document's REASON\_CODE as an Activity Result. In the standard strategy, the case is not transferred to another step if the result is "Success", but is transferred to "Processing 2nd Presentment Exception", if the result is "Failure" (to fix and resend, or ignore reject).

## 4. Case processing logic

General rules for creating, classifying, and processing dispute cases are configured according to WAY4 Case Management (see the section "Support of case processing infrastructure" of the "WAY4 Case Management" functional specification).

In addition, users can make their own custom settings for dispute case workflow.

Some MCOM-specific activity results and system and non-system (manual) activities make it possible to expand the standard settings of the Case Management platform to allow additional functionality.

An additional case object role with the "MSG\_DOC" code is used to configure activities within the framework of the WAY4 MCOM API solution. It is used for message documents, such as Case Initiation request, Questionnaire Details, etc.

## 5. Interaction with external systems

The MCOM API module on the WAY4 Transaction Switch platform acts as an HTTP (namely, HTTPS) client while connecting to the MCCM server. The system interface part of the MCCM server is located on the internet; its address is <https://api.mastercard.com>. All data sent to or received from the MCCM server is organized as JSON objects transferred over the REST protocol. Data confidentiality and integrity is provided by the TLS security layer. The WAY4 MCOM API solution meets all the requirements of the MasterCom API Specifications. All mandatory Release updates are provided to customers on a regular basis.