

PROJECT NAME: M-PESA	
DOCUMENT NAME: B2C API SPECIFICATION	VERSION: 1.5
COMPANY/DIVISION: PRODUCT AND SERVICE DEVELOPMENT	DATE: 7 TH OCTOBER 2014

B2C API Specification

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Approvals

This document needs below approvals for implementation.

Author(s)	Name	Signature	Date
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Reviewers	Name	Signature	Date
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Revision Log

Revision Number	Revision Date	Revision	Revision made by
1.0	18th June, 2013	Initial Draft	Eneth Kubai
1.1	9 th July, 2013	Added section 3.8.1: Password Encryption	Eric Mokaya
1.2	29 th July 2013	Added Result codes	Eneth Kubai
1.3	13 th Jan 2014	Added Result code explanations	Eneth Kubai
1.4	7 th Sept 2014	Added changePassword interface, edited queryTransaction Interface, edited OriginatorConversationId field restrictions. Removed encrypted parameter tag. Edited the genericAPI request,	Eneth Kubai

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		response and result, added result and response codes	
1.5	11 th Nov 2014	Attached SSL Guide	Eneth Kubai

References

Document	Author	Name
 Response and Result codesV1.0.xls	Eneth Kubai	Response and Result Codes V1.0
 SSL.pdf	John Barii	SSL Guide

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Abbreviations

Term	Definition
API	Application Programming Interface
B2C	Business to Customer
Broker	Service Access Gateway
SP	Service Provider

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1 Introduction

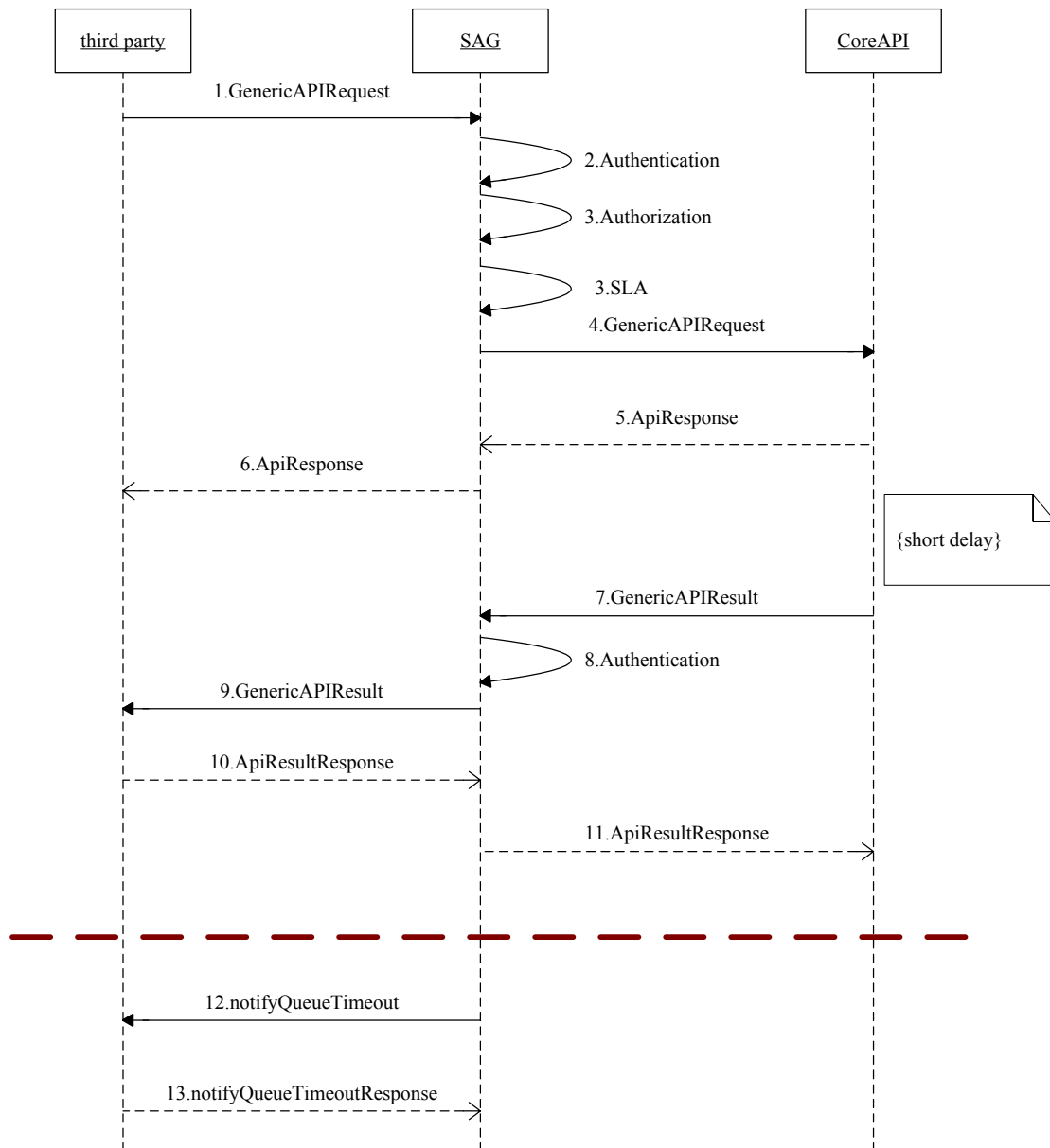
1.1 Scope

The present document specifies the real time B2C Web Service aspects of the interface. All aspects of B2C Web Service are defined here, these being:

- Message Flow Description
- Data Type Definition
- Web Service Interface Definition
- WSDL for this specification
- Example

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2 Message Flow Description



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3 Data Type Definition

3.1 IdentityType enumeration

List of IdentityType values.

Enumeration	Description
1000	Customer
2000	SPOperator
3000	OrganizationOperator
5000	Organization
6000	Till
8000	SP

3.2 IdentifierType enumeration

List of IdentityType values.

Enumeration	Description
1	MSISDN
2	TillNumber
3	SPShortCode
4	OrganizationShortCode
5	IdentityID
6	O2CLink
9	SPOperatorCode
10	POSNumber
11	OrganizationOperatorUserName
12	OrganizationOperatorCode
13	VoucherCode

3.3 ParameterType structure

Element name	Element type	Optional	Description
Key	xsd:string	No	It indicates a parameter name.
Value	xsd:string	No	It indicates a parameter value.

3.4 Parameters structure

Element name	Element type	Optional	Description
Parameter	ParameterType[1..unbounded]	No	It is used to carry specific parameters for specific transaction or business operation.

3.5 ReferenceData structure

Element name	Element type	Optional	Description
ReferenceItem	ParameterType[1..unbounded]	No	It is used carry some reference data that MM need not analyze but need to record it into transaction log..

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3.6 Transaction structure

Element name	Element type	Optional	Description
CommandID	xsd:string	No	The unique identifier of transaction/business operation. Max length is 64.eg <ul style="list-style-type: none"> <i>SalaryPayment</i> <i>BusinessPayment</i> <i>BusinessPaymentWithWithdrawalChargePaid</i> <i>SalaryPaymentWithWithdrawalChargePaid</i> <i>PromotionPayment</i> <i>TransferFromBankToCustomer</i>
LanguageCode	xsd:string	Yes	It indicates language. It's reserved.
OriginatorConversationID	xsd:string	No	The unique identifier of the request message generated by third party. It is used to identify a request between the third party and MM. Max length is 128. Field must start with the B2C organisation short and name of organisation. Eg. 232323_KCBOrg_XXXXXX XXXXXX must be unique for every transaction.
ConversationID	xsd:string	Yes	The unique identifier generated by MM for a previous request message. It is used to support communication multi-times between the third party and MM for one operation/transaction.
Remark	xsd:string	Yes	The remark information about this operation. Max length is 255
EncryptedParameters	xsd:string	Yes	It is used to carry the value for the element Parameters which are encrypted. The value for this parameter should be a CDATA and encode with base64
Parameters	Parameters	Yes	It is used to carry specific parameters for specific transaction or business operation. If the element EncryptedParameters presents, this parameter should not present.
ReferenceData	ReferenceData	Yes	It is used carry some reference data that MM need not analyze but need to record it into transaction log.
Timestamp	xsd:string	No	The timestamp generated by the third party.

3.7 Caller structure

Element name	Element type	Optional	Description
CallerType	xsd:integer	No	Indicates the type of the caller: 2-APICaller 3-Other(Reserved)
ThirdPartyID	xsd:string	No	The unique identifier of a third party system defined in MM. It indicates the third party which initiates the request. Max length is 20
Password	xsd:string	Yes	This security credential of the ThirdPartyID defined in MM. If the password feature for third party is used in MM, then this parameter must be presented in the request message.
Checksum	xsd:string	Yes	Currently it is unused. It is reserved for API security.
ResultURL	xsd:string	Yes	It indicates the destination URL where Broker should send the result message to.

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3.8 Initiator structure

Element name	Element type	Optional	Description
IdentifierType	IdentifierType	No	It indicates the identifier type of the initiator. The value of this parameter must be a valid identifier type supported by MM.
Identifier	xsd:string	No	It indicates the identifier of the initiator. Its value must match the inputted value of the parameter IdentifierType.
SecurityCredential	xsd:string	No	It indicates the security credential of the initiator. Its value must match the inputted value of the parameter IdentifierType.
ShortCode	xsd:string	No	When the initiator is an organization operator, this parameter must be present in the request to indicate which organization the operator belongs to. If the initiator is not an organization operator, this parameter should not be present.

3.8.1 Password Encryption

The Caller will be required to confirm its authority to act on behalf of the Initiator (in other words, a specific B2C organisation) by presenting the user name and password for the Initiator, the latter encrypted with the public key from an X509 certificate issued to the Initiator specifically for this purpose.

The following algorithm must be followed by the Initiator to encrypt passwords:

First, create the block of data to be encrypted:

- Write the unencrypted password value.
- Then, encrypt the block of data created in step 1 with the public portion of the password key certificate. Use the RSA algorithm, and use PKCS #1.5 padding (not OAEP), and add the result to the encrypted stream – this becomes the encrypted password which is submitted via the API.
- Convert the resulting encrypted byte array into a string using base64 encoding. Present this base64 encoded string in the API request as the initiator SecurityCredential value.

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3.9 PrimaryParty structure

Element name	Element type	Optional	Description
IdentifierType	IdentifierType	No	It indicates the identifier type of the primary party. The value of this parameter must be a valid identifier type supported by MM and must match the inputted value of the parameter IdentityType.
Identifier	xsd:string	No	It indicates a parameter value.
ShortCode	xsd:string	Yes	It is reserved

3.10 ReceiverParty structure

Element name	Element type	Optional	Description
IdentifierType	IdentifierType	No	It indicates the identifier type of the recipient party. The value of this parameter must be a valid identifier type supported by MM.
Identifier	xsd:string	No	It indicates the identifier of the recipient party. Its value must match the inputted value of the parameter IdentifierType.
ShortCode	xsd:string	Yes	When the receiver party is an organization operator or a Till, this parameter must be present in the request to indicate which organization the receiver party belongs to. If the receiver party is not an organization operator or a Till, this parameter should not be present.

3.11 AccessDevice structure

Element name	Element type	Optional	Description
IdentifierType	IdentifierType	No	It indicates the identifier type of the access device.
Identifier	xsd:string	No	It indicates the identifier of the access device. Its value must match the inputted value of parameter IdentifierType

3.12 Identity structure

Element name	Element type	Optional	Description
Caller	Caller	No	It indicates the third party which initiates the request
Initiator	Initiator	No	It indicates the identity who makes the request
PrimaryParty	PrimaryParty	Yes	If business operation/action, this element is not present; if transaction, this can be either the debit party or the credit party according to the transaction type.
ReceiverParty	ReceiverParty	Yes	If business operation/action, this is the affected party; if transaction, it is the opposite party to the PrimaryParty
AccessDevice	AccessDevice	Yes	It indicates the access device which the initiator uses to initiate the request.

3.13 Request structure

Element name	Element type	Optional	Description
Transaction	Transaction	No	It indicates a transaction.
Identity	Identity	No	This section is used to specify all identities involved in the request
KeyOwner	xsd:integer	No	It indicates which Key is used to encrypt the elements Initiator.SecurityCredential and the EncryptedParameters. Its value are enumerated as follows: 1:the API Caller's Key 2:the Initiator's Key

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3.14 Response structure

Element name	Element type	Optional	Description
ResponseCode	xsd:string	No	It indicates whether MM accepts the request or not.
ResponseDesc	xsd:string	Yes	Its value is a description for the parameter ResultCode.
ConversationID	xsd:string	Yes	The unique identifier generated by M-Pesa for the request message.
OriginatorConversationID	xsd:string	Yes	The unique identifier generated by the third party for the request message.
ServiceStatus	xsd: integer	Yes	It indicates the MM service status.

3.15 ResultParameters structure

Element name	Element type	Optional	Description
ResultParameter	ParameterType [0...unbounded]	Yes	It is used to carry specific parameters for specific transaction or business operation.

3.16 Result structure

Element name	Element type	Optional	Description
ResultType	xsd:integer	Yes	0: completed 1: waiting for further messages
ResultCode	xsd:string	No	It indicates whether MM processes the request successfully or not. Max length is 10
ResultDesc	xsd:string	Yes	Its value is a description for the parameter ResultCode. Max length is 1024
OriginatorConversationID	xsd:string	Yes	The unique identifier of the request message generated by third party. Its value comes from the request message.
ConversationID	xsd:string	Yes	The unique identifier generated by MM for a request
TransactionID	xsd:string	Yes	It's only for transaction. When the request is a transaction request, MM will generate a unique identifier for the transaction.
ResultParameters	ResultParameters	Yes	It is used to carry specific parameters for specific transaction or business operation.
ReferenceData	ReferenceData	Yes	It comes from the request message

3.17 Result code

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0	Success	ApiResponse
1	Insufficient Funds	ApiResponse
2	Less Than Minimum Transaction Value	ApiResponse
3	More Than Maximum Transaction Value	ApiResponse
4	Would Exceed Daily Transfer Limit	ApiResponse
5	Would Exceed Minimum Balance	ApiResponse
6	Unresolved Primary Party	ApiResponse
7	Unresolved Receiver Party	ApiResponse
8	Would Exceed Maximum Balance	ApiResponse
11	Debit Account Invalid	ApiResponse
12	Credit Account Invalid	ApiResponse
13	Unresolved Debit Account	ApiResponse
14	Unresolved Credit Account	ApiResponse
15	Duplicate Detected	ApiResponse
17	Internal Failure	ApiResponse
18	Initiator Credential Check Failure	ApiResponse
19	Message Sequencing Failure	ApiResponse
20	Unresolved Initiator	ApiResponse
21	Initiator to Primary Party Permission Failure	ApiResponse
22	Initiator to Receiver Party Permission Failure	ApiResponse
23	Request schema validation error	ApiResponse
24	MissingRequestParameters	ApiResponse
25	InvalidRequestParameters	ApiResponse
26	SystemTooBusy	ApiResponse
0	Success	ApiResponse
100000000	Request was cached, waiting for resending	ApiResponse
100000001	The system is overload	ApiResponse
100000002	Throttling error	ApiResponse
100000003	Exceed the limitation of the LICENSE	ApiResponse
100000004	Internal Server Error	ApiResponse
100000005	Invalid input value:%1 %1 indicates the parameter's name.	ApiResponse
100000006	SP's status is abnormal	ApiResponse
100000007	Authentication failed	ApiResponse
100000008	Service's status is abnormal	ApiResponse
100000009	API's status is abnormal	ApiResponse
100000010	Insufficient permissions	ApiResponse
100000011	Exceed the limitation of request rate	ApiResponse
100000012	Insufficient balance	ApiResponse
100000013	No route	ApiResponse
100000014	Missing mandatory parameter:%1 %1 indicates the parameter's name.	ApiResponse
28	InitiatorAllowedOperationCheckFailure	ApiResponse
29	InvalidCommand	ApiResponse
30	ErrorSerializingRequest	ApiResponse
31	InitiatorNotSpecified	ApiResponse
32	ErrorSerializingRequest	ApiResponse
33	PrimaryPartyNotSpecified	ApiResponse
34	PrimaryPartyIdentifierInvalid	ApiResponse
35	ReceiverPartyNotSpecified	ApiResponse
36	ReceiverPartyIdentifierInvalid	ApiResponse
37	MissingApiCommand	ApiResponse
38	InvalidConversationId	ApiResponse
39	UnknownConversationId	ApiResponse

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40	InvalidParameterDefinition	ApiResponse
41	DuplicateConversationDetected	ApiResponse
42	DuplicateStageMessageDetected	ApiResponse
43	AwaitingConfirmation	ApiResponse
44	InitiatorToReceiverPartyPermissionFailure	ApiResponse
45	InternalErrorDuringFinancialTransaction	ApiResponse
46	ConfirmationReceived	ApiResponse
47	RejectionReceived	ApiResponse
48	OperationPermissionFailure	ApiResponse
49	NoTransactionFound	ApiResponse
50	InitiatorOrgIdentityStatusFailure	ApiResponse
51	DebitChargeAccountInvalid	ApiResponse
52	WouldExceedMaximumSingleAirtimePurchase	ApiResponse

The following table lists result codes and result descriptions which are provided to the caller. These may be communicated either in the synchronous *ApiResponse* message, or in the asynchronous *ApiResponse* message.

0 Success

This is indicated for both *ApiResponse* and *ApiResponse* messages. An *ApiResponse* value of 0 indicates that the request has passed basic validation tests and been passed on to the core system for further processing. An *ApiResponse* value of 0 means that the requested financial transaction has been completed successfully. In case of multi staged transaction the response code will be 43 for initiation stage and 46 for confirmation.

1 InsufficientFunds

Typically indicates that the primary party does not have enough money to complete the requested financial transaction. In the case of the B2C API, this means that the business organisation does not have enough money in its utility account.

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This is returned by the *ApiResult* and represented internally as a transaction reason.

- 2 **LessThanMinimumTransactionValue**
- 3 **MoreThanMaximumTransactionValue**

Each of these potential failures derive from the rules which govern MPesa financial transactions. In the case of the B2C API, these are taken from *DefaultBusinessUtilityAccount* rules, which specify a lower bound of 10 KE shillings and an upper bound of 70000. For promotion payments and salary payments to unregistered users, the upper limit is lower: 35000. Likewise, the lower bound for these 2 transactions is also different: 101 rather than 10.

These are both returned by the *ApiResult* and represented internally as a transaction reason.

- 4 **WouldExceedDailyTransferLimit**

This is a limit on daily activity. For the business organisation, this is very high: 100000000 KE shillings. It is much more likely that this rule will apply to the customer, where the limit is 140000 KE shillings.

This is returned by the *ApiResult* and represented internally as a transaction reason.

- 5 **WouldExceedMinimumBalance**

This rule is rather confusingly named – it actually means that a transaction would bring the business organisations utility account below the required minimum – which is currently 0.

This is returned by the *ApiResult* and represented internally as a transaction reason. It is computed during execution of the financial transaction.

- 6 **UnresolvedPrimaryParty**
- 7 **UnresolvedReceiverParty**

The primary party or receiver party cannot be associated with an MPesa identity. For transactions (such as promotion payment and salary payment) which are supported for unregistered users, the unresolved receiver party rule is not applied.

These are returned in the *ApiResult* and checked before the linked financial transaction is created.

- 8 **WouldExceedMaximumBalance**

For the B2C API, this applies to the recipient MMF customer – the limit here is 100,000 KE shillings.

This is returned by the *ApiResult* and represented internally as a transaction reason. It is computed during execution of the financial transaction.

- 9 **LessThanMinAirtimeValue**
- 10 **MoreThanMaxAirtimeValue**

Neither of these apply to B2C API operations.

- 11 **DebitAccountInvalid**
- 12 **CreditAccountInvalid**

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13 UnresolvedDebitAccount

14 UnresolvedCreditAccount

These are all existing failure transaction reasons for B2C financial transactions – they would be issued to the caller in the *ApiResponse* message. The latter 2 in particular are unlikely to occur, as the request would be rejected by Core API specific checks before the request reached the accounting engine.

15 DuplicateDetected

Currently, any requests which presents an originator conversation id which has been seen before will be rejected. This rule will need to be reconsidered in contexts which require multi-stage conversations or multiple Callers. This check (along with the message expiry check) is the first thing done by the transaction processor when handling an API request. The outcome is reported in the *ApiResponse* message.

16 PayUtilityInvalidAccountNumberFormat

Does not apply to the B2C API operations.

17 InternalFailure

A catch all for failures which are not identified more specifically – this can occur in either the *ApiResponse* or *ApiResponse* – although the intent is to replace any such error with a more precise message.

18 InitiatorCredentialCheckFailure

The password check for the initiator failed, either because the presented password is wrong, or something has gone wrong in the encryption or decryption steps. This is issued in the *ApiResponse* before the creation of a financial transaction.

19 ApiRequestMessageExpiryFailure

Initiators have the option to specify a request timestamp. If the gap between this value and the time at which the message is received by the transaction processor is too great, then the request is rejected. The specific interval is configured separately for each API operation (and indeed, for each API operation stage). This is the first check performed on an API request arriving at the transaction processor, and as such is included in the *ApiResponse* message.

20 UnresolvedInitiator

The initiator username presented with the request cannot be found. This is included in the *ApiResponse*.

21 InitiatorToPrimaryPartyPermissionFailure

The initiator presented does not have the right to issue requests for the specified primary party (as established during creation of the initiator on the admin web site). This is part of the *ApiResponse*, and computed prior to issuing a financial transaction.

22 InitiatorStatusCheckFailure

The presented initiator username can be received, but the initiator is not currently active. This fact is returned in the *ApiResponse*.

23 RequestSchemaValidationError

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Incoming API requests are validated against the schema defined in *CPSInterface_Request.xsd*. This is part of the *ApiResponse* message – the details of the validation error are included in the response.

24 MissingRequestParameters

Required input parameters are defined for each type of API operation. If these are missing, then this is issued in the *ApiResponse* message. The names of the missing parameters are included in the result parameters field.

25 InvalidRequestParameters

If all required parameters are presented, then validation checks are performed. Specifically, the parameter is checked to see if it can be converted to the intended type, and then checked against (optional) configuration regular expression based validation rules. For the B2C API, only the type check (i.e the amount specified is a valid decimal) is performed. Failures are indicated in the *ApiResponse* message, with the details included in the result parameters.

26 SystemTooBusy

Included in the *ApiResponse* message if a traffic blocking condition is in place. See section 5.1 for more detail.

28 InitiatorAllowedOperationCheckFailure

Upon creation, initiators are assigned permissions for specific API operations – if the operation specified in the request message is not included in this list, then this *ApiResponse* message is received.

29 InvalidCommand

The command specified in the request is not defined – this is part of the *ApiResponse*.

30 ErrorSerializingRequest

After XML schema validation, the API attempts to convert the XML request into an internal *ApiRequest* object – any failures result in this *ApiResponse* message. The details of the exception are included.

31 InitiatorNotSpecified

The initiator username is not specified, or not specified in a way that can be parsed.

32 ErrorSerializingRequest

The presented identifier for the initiator is not a username.

33 PrimaryPartyNotSpecified

34 PrimaryPartyIdentifierInvalid

35 ReceiverPartyNotSpecified

36 ReceiverPartyIdentifierInvalid

In all these case, one of the API parties is either missing from the request, or has been presented with the wrong identifier type., This kind of failure is indicated in the *ApiResponse* message.,

37 MissingApiCommand

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No command is included in the request – in general this problem should be captured by the XML schema validation, but if it is not this *ApiResponse* message is issued.

38 InvalidConversationId

39 UnknownConversationId

Not currently checked for – this will take place for multi-stage conversations.

40 InvalidParameterDefinition

Not been used.

41 DuplicateConversationDetected

If the originatorconversationid is be reused again, the request will end up with duplicate error code. The request should have a unique originatorconversationid for every new apirequest.

42 DuplicateStageMessageDetected

If the stage name is requested twice it will end up with duplicate stage. Though the occurrence of this would be very rare.

43 AwaitingConfirmation

It is applicable for multi stage transaction. Once the first stage of the transaction is set to authorised with will set the result code as AwaitingConfirmation to convey the initiator to initiate the confirmation stage.

44 InitiatorToReceiverPartyPermissionFailure

The initiator presented does not have the right to issue requests for the specified receiver party (as established during creation of the initiator on the admin web site). The is part of the *ApiResponse*, and computed prior to issuing a financial transaction.

45 InternalErrorDuringFinancialTransaction

46 ConfirmationReceived

It is applicable for the multi stage transaction. The result code is send once the confirmation stage is processed successfully to confirm the financial transaction.

47 RejectionReceived

It is applicable for the multi stage transaction. The result code is send once the confirmation stage is processed successfully to cancel the financial transaction

48 OperationPermissionFailure

For transaction status query if the initiator presented was not the part of the original transaction or linked to the respective parties within the original request a transaction access permission failure result is send out. For balance query if the initiator is not linked to the request organisation shortcode it will return the same result code. As the validation is common the result code will be shared by both the request.

49 NoTransactionFound

For transaction status query is the request transaction parameter is not found in the system it will send the transaction not found result code.

50 InitiatorOrgIdentityStatusFailure

The result code is returned if the organisation status is closed.

51 DebitChargeAccountInvalid

If the Airtime purchase account is set to inactive state the corresponding transaction will return an invalid debit charge account failure.

52 WouldExceedMaximumSingleAirtimePurchase

If transaction amount exceeds the maximum amount configured for single request it will fail the transaction for rule failure.

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4 Web Service Interface Definition

4.1 Interface: RequestMgrPortType

4.1.1 Operation: GenericAPIRequest

The 3rd party invokes this operation to send a B2C request

4.1.1.1 Message Header: RequestSOAPHeader

Element name	Element type	Optional	Description
spld	xsd: string	No	SP ID. This is the Service Provider Identifier that is allocated by the Broker to the 3 rd party. [Example] 000201
spPassword	xsd: string	Yes	This is an encrypted form of the SP password issued to an SP when an account is created on the Broker. The encrypted password is a Base64 encoded string of the SHA-256 hash of the concatenation of the spld, password and the timeStamps as illustrated below: Given the following parameters spld: 601399 password: spPassword timestamp: 20130702212854 spPassword = BASE64(SHA-256(spld + Password + timeStamps)) e.g. spPassword = BASE64(SHA-256(601399spPassword20130702212854)) [Example] e6434ef249df55c7a21a0b45758a39bb
serviceId	xsd: string	Yes	Service ID. This is the Service Identifier that is allocated by the Broker for every service created. [Example] 3500001000012

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Element name	Element type	Optional	Description
Timestamp	xsd: string	Yes	<p>Time stamp (UTC time).</p> <p>The value is required during SHA-256 encryption for spPassword.</p> <p>NOTE If the spPassword parameter must be set, this parameter is mandatory.</p> <p>[Format] yyyyMMddHHmmss</p> <p>[Example] 20100731064245</p>

4.1.1.2 Input Message: RequestMsg

Element name	Element type	Optional	Description
RequestMsg	xsd: string	No	Request Message from 3 rd party. Its value should be an instance of Request Type and a CDATA

Note:

1. If there is no configuration for notification URL on Broker side, which indicates the callback url for accepting notification of GenericAPIResult, the **ResultURL** parameter inside Identity tag must present.
2. If there is no configuration for notification URL on Broker side, which indicates the callback url for accepting notification of cached requests expired, the 3rd party must add a key-pair parameter into **ReferenceData** and the key is **QueueTimeoutURL**.

4.1.1.3 Output Message: ResponseMsg

Element name	Element type	Optional	Description
ResponseMsg	xsd: string	No	Response return to 3 rd party. Its value should be an instance of Response Type and a CDATA.

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4.2 Interface: ResultMgrPortType

4.2.1 Operation: GenericAPIResult

This operation must be implemented by a Web Service at the 3rd party side if it requires notification of the final result for B2C request. It will be invoked by Broker to notify the 3rd party once Broker received the notification from CoreAPI.

4.2.1.1 Input Message: ResultMsg

Element name	Element type	Optional	Description
ResultMsg	xsd: string	No	Request Message from Broker. Its value should be a instance of Result Type and a CDATA.

4.2.1.2 Output Message: ResponseMsg

Element name	Element type	Optional	Description
ResponseMsg	xsd: string	No	Response return to Broker. Its value should be a instance of Response Type and a CDATA.

4.2.1.3 Response Codes

ResponseCode	ResponseDesc
000000000	Success
200000001	The system is overload
200000002	Throttling error
200000003	Internal Server Error

The parameters in the **Result/ResultParameters** element are listed below:

The **ResultParameters** will change to this on April 2015.

Parameter	Data Type	Mandatory or Optional	Description	Example
TransactionReceipt	xs:string	Mandatory	Unique transaction ID for the payment transaction.	1234560 0000070 31

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Parameter	Data Type	Mandatory or Optional	Description	Example
TransactionAmount	xs:string	Mandatory	2 fixed point decimal amount of the transaction	1 0 0 . 2 2
TransactionCompletedDateTime	xs:string	Mandatory	The time when the financial transaction was completed, as recorded in the M-Pesa system. Format: dd.mm.yyyy HH:MM:SS	2 2 . 0 3 . 2 0 1 2 1 2 : 2 0 : 2 0

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Parameter	Data Type	Mandatory or Optional	Description	Example
ReceiverPartyPublicName	xs:string	Mandatory	<p>Public name of the customer who has been issued the money.</p> <p>Format: <MSISDN>-<First Name> <Last Name></p> <p>For unregistered customer, the <First Name> <Last Name> will be blank.</p>	254772388888-KipKeino
B2CWorkingAccountAvailableFunds	xs:string	Mandatory	<p>2 fixed point decimal amount of the Available Balance of the organization's Working Account.</p> <p>Note: the exact Account Type will depend on the configuration.</p>	9999.88
B2CUtilityAccountAvailableFunds	xs:string	Mandatory	<p>2 fixed point decimal amount of the Available Balance of the organization's Utility Account, which is the debit account of the principle transaction.</p> <p>Note: the exact Account Type will depend on the configuration.</p>	9999.88

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Parameter	Data Type	Mandatory or Optional	Description	Example
B2CChargesPaidAccountAvailableFunds	xs:string	Mandatory	<p>2 fixed point decimal amount of the Available Balance of the organization's Charge Paid Account, which is debit account of the charge.</p> <p>Note: the exact Account Type will depend on the configuration.</p>	9999.88
B2CRecipientIsRegisteredCustomer	xs:string	Mandatory	<p>Indicate if the recipient is an existing Mobile Money customer, or an unregistered customer.</p> <p>Format: Y or N</p> <p>Note: This field is not filled by the G1 platform, but it will be filled by the G2 platform.</p>	Y

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4.3 Interface: QueueTimeoutNotificationPort

4.3.1 Operation: notifyQueueTimeout

This operation must be implemented by a Web Service at the 3rd party side if it requires notification of cached B2C requests are expired. It will be invoked by Broker to notify the 3rd party once cached B2C requests are expired.

4.3.1.1 Input Message: notifyQueueTimeout

Element name	Element type	Optional	Description
originatorConversationID	xsd:string		originatorConversationID from the request sent by the 3 rd party
originRequest	xsd:string	No	Original request without SOAP Header sent by 3 rd party. Its value is encoded with base64, when the 3rd party receive the request, it should decode it.
extensionInfo	Parameters	Yes	Extended parameters.

4.3.1.2 Output Message: notifyQueueTimeoutResponse

Element name	Element type	Optional	Description
result	Result	No	
extensionInfo	Parameters	Yes	Extended parameters.

4.3.1.3 Response Code

ResponseCode	ResponseDesc
000000000	Success
000000001	Failed

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4.4 Interface: QueryTransactionPort

4.4.1 Operation: queryTransaction

The 3rd party invokes this operation to query transaction information..

4.3.1.1 Message Header: RequestSOAPHeader

Element name	Element type	Optional	Description
spId	xsd: string	No	SP ID. It's allocated by the Broker to the 3 rd party. [Example] 000201
spPassword	xsd: string	Yes	Encrypted authentication password for partners to access the Broker. The value is a character string encrypted from spId + Password + timeStamp by SHA-256. The encryption formula is as follows: spPassword =BASE64(SHA-256(spId + Password + timeStamp)) In the preceding formula: <ul style="list-style-type: none"> timeStamp: value of timeStamp. Password: authentication password for 3rd parties to access the Broker. The value is allocated by the Broker. NOTE The authentication modes include SPID&Password, SPID&IP&Password, and SPID&IP. When the authentication mode is SPID&Password or SPID&IP&Password, this parameter is mandatory. [Example] e6434ef249df55c7a21a0b45758a39bb
serviceId	xsd: string	Yes	Service ID. The value is allocated by the Broker to the 3 rd party. [Example] 3500001000012
timeStamp	xsd: string	Yes	Time stamp (UTC time). The value is required during SHA-256 encryption for spPassword . NOTE If the spPassword parameter must be set, this parameter is mandatory. [Format] yyyyMMddHHmmss [Example] 20100731064245

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4.3.1.2 Input Message: queryTransaction

Element name	Element type	Optional	Description
originatorConversationID	xsd:string		The unique identifier of the request message generated by third party. It is used to identify a request between the third party and MM. Max length is 128
extensionInfo	Parameters	Yes	Extended parameters.

Table 1-1 extensionInfo Description

Parameter	Optional	Type	Description
queryDate	Yes	String(20)	The date of the original conversation. Format is yyyyMMddHHmmss, for example: 20131230134412 Note: If this parameter does not present, it will cost more time to get the result.

4.3.1.3 Output Message: queryTransactionResponse

Element name	Element type	Optional	Description
result	Response	No	
submitApiRequestList	xsd:string[0-unbounded]	Y	Requests sent by the 3 rd party. Its value is the requests sent by the 3 rd party with base64 encoded.
submitApiResponseList	xsd:string[0-unbounded]	Y	Responses returned from the Broker. Its value is the responses returned from the Broker with base64 encoded.
submitApiResponseList	xsd:string[0-unbounded]	Y	Results sent to the 3 rd party. Its value is the requests sent by the Broker with base64 encoded.
queueTimeoutList	xsd:string[0-unbounded]	Y	QueueTimeout requests sent to the 3 rd party. Its value is the requests sent by the Broker with base64 encoded.
extensionInfo	Parameters	Yes	Extended parameters.

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4.3.1.4 Response Codes

ResponseCode	ResponseDesc
00000000	Success
10000001	The system is overload
10000002	Throttling error
10000003	Exceed the limitation of the LICENSE
10000004	Internal Server Error
10000005	Invalid input value:%1 %1 indicates the parameter's name.
10000006	SP's status is abnormal
10000007	Authentication failed
10000008	Service's status is abnormal
10000010	Insufficient permissions
10000014	Missing mandatory parameter:%1 %1 indicates the parameter's name.

4.5 Interface: Management

4.5.1 Operation: changePassword

The 3rd party invokes this operation to change his password.

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Input Message: changePassword

Element name	Element type	Optional	Description
spId	xsd: string	No	SP ID. It's allocated by the SAG to the 3 rd party. [Example] 000201
spPassword	xsd: string	Yes	Encrypted authentication password for partners to access the SAG. The value is a character string encrypted from spId + Password + timeStamp by SHA-256. The encryption formula is as follows: spPassword =BASE64(SHA-256(spId + Password + timeStamp)) In the preceding formula: timeStamp : value of timeStamp . Password : authentication password for 3 rd parties to access the SAG. The value is allocated by the SAG. NOTE The authentication modes include SPID&Password, SPID&IP&Password, and SPID&IP. When the authentication mode is SPID&Password or SPID&IP&Password, this parameter is mandatory. [Example] e6434ef249df55c7a21a0b45758a39bb
timeStamp	xsd: string	Yes	Time stamp (UTC time). The value is required during SHA-256 encryption for spPassword . NOTE If the spPassword parameter must be set, this parameter is mandatory. [Format] yyyyMMddHHmmss [Example] 20100731064245

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Element name	Element type	Optional	Description
newPassword	xsd:string	No	<p>New authentication password for 3rd parties to access the SAG. It should be encrypted by AES-256 and encoded with base64. Shared key and will be allocated by the SAG.</p> <p>For example: New password is !QAZ2wsx, Security key is AAAabcdefghijklm, Vector is abcdefghijklmnop BASE64(AES(!QAZ2wsx, AAAabcdefghijklm, abcdefghijklmnop)) is wi2a7BAH0QPd2LRdmcgC9w==</p> <p>SP should fill wi2a7BAH0QPd2LRdmcgC9w== as newPassword</p>
extensionInfo	Parameters	Yes	Extended parameters.

Output Message: changePasswordResponse

Element name	Element type	Optional	Description
result	Result	No	Result.
extensionInfo	Parameters	Yes	Extended parameters.

Response Code

ResponseCode	ResponseDesc
000000000	Success
100000001	The system is overload
100000002	Throttling error
100000003	Exceed the limitation of the LICENSE
100000004	Internal Server Error
100000005	Invalid input value:%1 %1 indicates the parameter's name.

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ResponseCode	ResponseDesc
100000006	SP's status is abnormal
100000007	Authentication failed
100000014	Missing mandatory parameter:%1 %1 indicates the parameter's name.

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5 Example

5.1 GenericAPIRequest

5.1.1 The 3rd party send B2C request to the Broker

Example1: Request with ResultURL and QueueTimeoutURL

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">
  <soapenv:Header>
    <tns:RequestSOAPHeader xmlns:tns="http://www.huawei.com.cn/schema/common/v2_1">
      <tns:spld>35000011</tns:spld>
      <tns:spPassword>c5216e519a071d601bedd150f3fcd026</tns:spPassword>
      <tns:serviceId>35000001000009</tns:serviceId>
      <tns:timeStamp>20120101010101</tns:timeStamp>
    </tns:RequestSOAPHeader>
  </soapenv:Header>
  <soapenv:Body>
    <req:RequestMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
    <request xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">
      <Transaction>
        <CommandID>PromotionPayment</CommandID>
        <LanguageCode></LanguageCode>
        <OriginatorConversationID>4596</OriginatorConversationID>
        <ConversationID> </ConversationID>
        <Remark> </Remark>
        <Parameters>
          <Parameter>
            <Key>Amount</Key>
            <Value>1</Value>
          </Parameter>
          <Parameter>
            <Key>Key1</Key>
```

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```

    <Value>Value1</Value>

  </Parameter>

</Parameters>

<ReferenceData>

  <ReferenceItem>

    <Key>QueueTimeoutURL</Key>

    <Value>http://10.66.49.789:7888/new</Value>

  </ReferenceItem>

  <ReferenceItem>

    <Key>Occasion</Key>

    <Value>Jamuhuri</Value>

  </ReferenceItem>

</ReferenceData>

<Timestamp>2013-07-29T18:50:41.2109675Z</Timestamp>

</Transaction>

<Identity>

  <Caller>

    <CallerType>2</CallerType>

    <ThirdPartyID> </ThirdPartyID>

    <Password>Password0</Password>

    <Checksum>Checksum0</Checksum>

    <ResultURL>ResultURL0</ResultURL>

  </Caller>

  <Initiator>

    <IdentifierType>11</IdentifierType>

    <Identifier>username</Identifier>

    <SecurityCredential>SecurityCredential0</SecurityCredential>

    <ShortCode>859636</ShortCode>

  </Initiator>

  <PrimaryParty>

    <IdentifierType>4</IdentifierType>

```

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```

        <Identifier>859636</Identifier>

        <ShortCode>859636</ShortCode>

    </PrimaryParty>

    <ReceiverParty>

        <IdentifierType>1</IdentifierType>

        <Identifier>2547204789659</Identifier>

        <ShortCode>ShortCode1</ShortCode>

    </ReceiverParty>

    <AccessDevice>

        <IdentifierType>1</IdentifierType>

        <Identifier>Identifier3</Identifier>

    </AccessDevice>

</Identity>

<KeyOwner>1</KeyOwner>
</request>]]></req:RequestMsg>

</soapenv:Body>

</soapenv:Envelope>

```

Example2: Request without ResultURL and QueueTimeoutURL

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">

    <soapenv:Header>

        <tns:RequestSOAPHeader xmlns:tns="http://www.huawei.com/schema/osg/common/v2_1">

            <tns:spId>35000001</tns:spId>

            <tns:spPassword>c5216e519a071d601bedd150f3fcd026</tns:spPassword>

            <tns:timeStamp>20080101010101</tns:timeStamp>

            <tns:serviceId>35000001000009</tns:serviceId>

            <tns:OA>861234567890</tns:OA>

            <tns:FA>861234567890</tns:FA>

        </tns:RequestSOAPHeader>

    </soapenv:Header>

    <soapenv:Body>

```

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```

<req:RequestMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
<request xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">
  <Transaction>
    <CommandID>CommandID0</CommandID>
    <LanguageCode>LanguageCode0</LanguageCode>
    <OriginatorConversationID>OriginatorConversationID0</OriginatorConversationID>
    <ConversationID>ConversationID0</ConversationID>
    <Remark>Remark0</Remark>
    <EncryptedParameters>EncryptedParameters0</EncryptedParameters>
    <Parameters>
      <Parameter>
        <Key>Key0</Key>
        <Value>Value0</Value>
      </Parameter>
      <Parameter>
        <Key>Key1</Key>
        <Value>Value1</Value>
      </Parameter>
    </Parameters>
    <ReferenceData>
      <Referenceltem>
        <Key>Key2</Key>
        <Value>Value2</Value>
      </Referenceltem>
    </ReferenceData>
    <Timestamp>
    </Timestamp>
  </Transaction>
  <Identity>
    <Caller>
      <CallerType>0</CallerType>

```

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```

    <ThirdPartyID>ThirdPartyID0</ThirdPartyID>

    <Password>Password0</Password>

    <Checksum>Checksum0</Checksum>

</Caller>

<Initiator>

    <IdentifierType>1</IdentifierType>

    <Identifier>Identifier0</Identifier>

    <SecurityCredential>SecurityCredential0</SecurityCredential>

    <ShortCode>

    </ShortCode>

</Initiator>

<PrimaryParty>

    <IdentifierType>1</IdentifierType>

    <Identifier>Identifier1</Identifier>

    <ShortCode>ShortCode0</ShortCode>

</PrimaryParty>

<ReceiverParty>

    <IdentifierType>1</IdentifierType>

    <Identifier>Identifier2</Identifier>

    <ShortCode>ShortCode1</ShortCode>

</ReceiverParty>

<AccessDevice>

    <IdentifierType>1</IdentifierType>

    <Identifier>Identifier3</Identifier>

</AccessDevice>

</Identity>

<KeyOwner>0</KeyOwner>

</request>]]></req:RequestMsg>

</soapenv:Body>

</soapenv:Envelope>

```

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5.1.2 The Broker return response to the 3rd party

Example1: Forward CoreAPI response to the 3rd party

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">

  <soapenv:Header/>

  <soapenv:Body>

    <req:ResponseMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>

<response xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/response">

  <ResponseCode>ResponseCode0</ResponseCode>

  <ResponseDesc>ResponseDesc0</ResponseDesc>

  <ConversationID>

  </ConversationID>

  <OriginatorConversationID>

  </OriginatorConversationID>

  <ServiceStatus>0</ServiceStatus>

</response>]]></req:ResponseMsg>

  </soapenv:Body>

</soapenv:Envelope>
```

Or

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">

  <soapenv:Body>

    <req:ResponseMsg xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request"><![CDATA[<?xml version="1.0"
encoding="UTF-8"?><Response><ResponseCode>0</ResponseCode><ConversationID>AG_20140825_000056ac18ccfd6a13a2</Conv
ersationID><ResponseDesc>Accept the service request successfully.</ResponseDesc><OriginatorConversationID>B2C-SIT-000005

  </OriginatorConversationID><ServiceStatus>0</ServiceStatus></Response>]]></req:ResponseMsg>

  </soapenv:Body>

</soapenv:Envelope>
```

Example2: Error response caused by authentication failed.

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">

  <soapenv:Header/>
```

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```

<soapenv:Body>
  <req:ResponseMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
    <response xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/response">
      <ResponseCode>100000007</ResponseCode>
      <ResponseDesc>Authentication failed</ResponseDesc>
    </response>]]></req:ResponseMsg>
</soapenv:Body>
</soapenv:Envelope>

```

Example3: Error response caused by waiting for resending.

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">
  <soapenv:Header/>
  <soapenv:Body>
    <req:ResponseMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
      <response xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/response">
        <ResponseCode>100000000</ResponseCode>
        <ResponseDesc>Request was cached, waiting for resending</ResponseDesc>
      </response>]]></req:ResponseMsg>
    </soapenv:Body>
  </soapenv:Envelope>

```

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5.2 GenericAPIResult

5.2.1 The Broker send notification to the 3rd party

```
<s:Envelope xmlns:s="http://schemas.xmlsoap.org/soap/envelope/">
  <s:Body xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema">
    <ResultMsg xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/result">
      <![CDATA[<Result
xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/result"
xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
        <ResultType>Completed</ResultType>
        <ResultCode>0</ResultCode>
        <ResultDesc>Success</ResultDesc>
        <OriginatorConversationID>R9-2-eq-a7cb-q277</OriginatorConversationID>
        <ConversationID>61da40ad-7e96-4889-83c4-1ea77091f8ec</ConversationID>
        <TransactionID>X-IO213</TransactionID><ResultParameters>
          <Parameter>
            <Key xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">Amount</Key>
            <Value xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">Ksh200.00</Value>
          </Parameter><Parameter><Key xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">Transaction Datetime</Key>
            <Value xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">22/10/2014 20:55:24</Value>
          </Parameter><Parameter>
            <Key xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">Working Account Available Funds</Key>
            <Value xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">2338002.5100</Value>
          </Parameter><Parameter>
            <Key xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">Charges Paid Account Available Funds</Key>
            <Value xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">0.0000</Value>
          </Parameter><Parameter>
            <Key xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">Utility Account Available Funds</Key>
            <Value xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">461898.0000</Value>
          </Parameter></ResultParameters>
          <ReferenceData><ReferenceItem><Key
xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">QueueTimeoutURL</Key><Value
xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/request">http://10.66.49.201:8097/</Value></ReferenceItem></ReferenceData></Result>]]>
        </ResultMsg>
```


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</s:Body>

</s:Envelope>

Or

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
  <soapenv:Header/>
  <soapenv:Body>
    <req:ResultMsg xmlns:req="http://cps.huawei.com/cpsinterface/result"><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
      <Result>
        <ResultType>0</ResultType>
        <ResultCode>0</ResultCode>
        <ResultDesc>The service request is processed successfully.</ResultDesc>
        <OriginatorConversationID>D7866050-CE7C-46B9-BE97-D9FBACC69041</OriginatorConversationID>
        <ConversationId>B72AC018-86E4-477A-B4B0-9EC65AE8A2FE</ConversationId>
        <TransactionId>2782728972</TransactionId>
        <ResultParameters>
          <ResultParameter>
            <Key>TransactionReceipt</Key>
            <Value>2782728972</Value>
          </ResultParameter>
          <ResultParameter>
            <Key>TransactionAmount</Key>
            <Value>100.00</Value>
          </ResultParameter>
          <ResultParameter>
            <Key>TransactionCompletedDateTime</Key>
            <Value>22.03.2012 12:20:20</Value>
          </ResultParameter>
          <ResultParameter>
            <Key>ReceiverPartyPublicName</Key>
            <Value>254778866553868-Kip Keino</Value>
          </ResultParameter>
        </ResultParameters>
      </Result>
    </req:ResultMsg>
  </soapenv:Body>
</soapenv:Envelope>
```

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```

<ResultParameter>

  <Key>B2CWorkingAccountAvailableFunds</Key>

  <Value>10000.00</Value>

</ResultParameter>

<ResultParameter>

  <Key>B2CUtilityAccountAvailableFunds</Key>

  <Value>100000.00</Value>

</ResultParameter>

<ResultParameter>

  <Key>B2CChargesPaidAccountAvailableFunds</Key>

  <Value>1000.00</Value>

</ResultParameter>

<ResultParameter>

  <Key>B2CRecipientIsRegisteredCustomer</Key>

  <Value>Y</Value>

</ResultParameter>

<ResultParameter>

  <Key>B2CWithdrawalChargeAmount</Key>

  <Value>12.00</Value>

</ResultParameter>

</ResultParameters>

<ReferenceData>

  <ReferenceItem>

    <Key>Occasion</Key>

    <Value>Christmas</Value>

  </ReferenceItem>

</ReferenceData>

</Result>]]</req:ResultMsg>

</soapenv:Body>

</soapenv:Envelope>

```

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5.2.2 The 3rd party return response to the Broker

Example1: Success response

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">
  <soapenv:Header/>
  <soapenv:Body>
    <req:ResponseMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
    <response xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/response">
      <ResponseCode>00000000</ResponseCode>
      <ResponseDesc>success</ResponseDesc>
    </response>]]></req:ResponseMsg>
  </soapenv:Body>
</soapenv:Envelope>
```

Example2: Error response

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">
  <soapenv:Header/>
  <soapenv:Body>
    <req:ResponseMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>
    <response xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/response">
      <ResponseCode>20000003</ResponseCode>
      <ResponseDesc>Internal Server Error</ResponseDesc>
    </response>]]></req:ResponseMsg>
  </soapenv:Body>
</soapenv:Envelope>
```

5.3 notifyQueueTimeout

5.3.1 The Broker send notification to the 3rd party

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:loc="http://www.csapi.org/schema/timeoutnotification/data/v1_0/local"
  xmlns:res="http://api-v1.gen.mm.vodafone.com/mminterface/result">
  <soapenv:Header/>
```


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```

</loc:notifyQueueTimeoutResponse>

</soapenv:Body>

</soapenv:Envelope>

```

Example2: Error response

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:loc="http://www.csapi.org/schema/timeoutnotification/data/v1_0/local"
  xmlns:res="http://api-v1.gen.mm.vodafone.com/mminterface/result">

  <soapenv:Header/>

  <soapenv:Body>

    <loc:notifyQueueTimeoutResponse>

      <loc:result>

        <res:ResultCode>000000001</res:ResultCode>

        <res:ResultDesc> failed </res:ResultDesc>

      </loc:result>

    </loc:notifyQueueTimeoutResponse>

  </soapenv:Body>

</soapenv:Envelope>

```

5.4 queryTransaction

5.4.1 The 3rd party sends query request to the Broker

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:v2="http://www.huawei.com.cn/schema/common/v2_1"
  xmlns:loc="http://www.csapi.org/schema/transaction/data/v1_0/local"
  xmlns:res="http://api-v1.gen.mm.vodafone.com/mminterface/result">

  <soapenv:Header>

    <v2:RequestSOAPHeader>

      <v2:spId>151515</v2:spId>

      <v2:spPassword>ODExNERCMDICNjVDRkYxQUFCNzE5MkE1OEQyMjJDMzk1RUFCNzgwMjk2ODE4Rjk1OTE2MEFGNDU1QkRCMDk
yMg==</v2:spPassword>

      <v2:serviceId>151515000</v2:serviceId>

      <v2:timeStamp>20140730093620</v2:timeStamp>

    </v2:RequestSOAPHeader>

  </soapenv:Header>

```


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```

bkIEPmUwZTk2OGY1LTJhZWEtNDMxMy1hYWwNmLTA3OWM1Y2E0N2QwMTwvQ29udmVyc2F0aW9uSUQ+PFJlc3VsdFBhcmFtZXRIcn
M+PFBhcmFtZXRIcj48S2V5IHhtbG5zPSJodHRwOi8vYXBpLXYxLmdlbi5tS52b2RhZm9uZS5jb20vbW1pbmRlcmZhY2UvcmlVxdWVzdCI+
VHJhbnNhY3Rpb24gRGF0ZVRpbWU8L0tleT48VmFsdWUgeG1sbnM9Imh0dHA6Ly9hcGktZjEuZ2VvLm1tLnZvZGFmb25lLnNvbS9tbWlu
dGVyZmFjZS9yZXF1ZXN0Ij4zMCA4wOS4yMDE0IDEyOjUyOjMxPC9WYWx1ZT48L1BhcmFtZXRIcj48L1Jlc3VsdFBhcmFtZXRIcnM+PFJIZ
mVyZW5jZURhdGE+PFIJZmVYVW5jZUI0ZW0+PEtleSB4bWxucz0iaHR0cDovL2FwaS12MS5nZW4ubW0udm9kYWZvbmlUuY29tL21taW
50ZXJmYWwNIL3JlcXVlc3QiPiF1ZXVlVGltZW91dFVSTDwvS2V5PjxWYXx1ZSB4bWxucz0iaHR0cDovL2FwaS12MS5nZW4ubW0udm9kY
WZvbmlUuY29tL21taW50ZXJmYWwNIL3JlcXVlc3QiPiMh0dHA6Ly8xMC42Ni40OS4yMDE0ODk4OS88L1ZhbHVlPjwvUmVmZXJlbnNISXRl
bT48L1JlZmVYVW5jZURhdGE+PC9SZXN1bHQ+XV0+PC9SZXN1bHRNc2c+PC9zOkJvZHK+PC9zOkVudmVsb3BIPg==</ns1:submitApi
Result>

```

```
</ns1:submitApiResultList>
```

```
<ns1:queueTimeOutList/>
```

```
</ns1:queryTransactionResponse>
```

```
</soapenv:Body>
```

</soapenv:Envelope>Example2: Error response

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:loc="http://www.csapi.org/schema/transaction/data/v1_0/local"
xmlns:res="http://api-v1.gen.mm.vodafone.com/mminterface/response"
xmlns:res1="http://api-v1.gen.mm.vodafone.com/mminterface/result">

  <soapenv:Header/>

  <soapenv:Body>

    <loc:queryTransactionResponse>

      <loc:result>

        <ResponseCode>100000007</ResponseCode>

        <ResponseDesc>Authentication failed</ResponseDesc>

      </loc:result>

    </loc:queryTransactionResponse>

  </soapenv:Body>

</soapenv:Envelope>

```

5.5 changePassword

5.5.1 Request example:

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:loc="http://www.csapi.org/schema/management/data/v1_0/local"
xmlns:res="http://api-v1.gen.mm.vodafone.com/mminterface/result">

  <soapenv:Header/>

```

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```

<soapenv:Body>

  <loc:changePassword>

    <loc:spld>3500001</loc:spld>

    <loc:spPassword>c5216e519a071d601bedd150f3fcd026</loc:spPassword>

    <loc:timeStamp>20120101010101</loc:timeStamp>

    <loc:newPassword>wi2a7BAH0QPd2LRdmcgC9w==</loc:newPassword>

  </loc:changePassword>

</soapenv:Body>

</soapenv:Envelope>

```

5.5.2 Response example:

- Example1: Success response

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:loc="http://www.csapi.org/schema/transaction/data/v1_0/local"
xmlns:res="http://api-v1.gen.mm.vodafone.com/mminterface/response"
xmlns:res1="http://api-v1.gen.mm.vodafone.com/mminterface/result">

  <soapenv:Header/>

  <soapenv:Body>

    <loc:changePassword Response>

      <loc:result>

        <res:ResponseCode>00000000</res:ResponseCode>

        <res:ResponseDesc>Success</res:ResponseDesc>

      </loc:result>

      <loc:changePasswordResponse>

    </soapenv:Body>

  </soapenv:Envelope>

```

- Example2: Error response caused by authentication failed.

```

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:req="http://api-v1.gen.mm.vodafone.com/mminterface/request">

  <soapenv:Header/>

  <soapenv:Body>

    <req:ResponseMsg><![CDATA[<?xml version="1.0" encoding="UTF-8"?>

<response xmlns="http://api-v1.gen.mm.vodafone.com/mminterface/response">

```

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```

<ResponseCode>100000007</ResponseCode>

<ResponseDesc>Authentication failed</ResponseDesc>

</response>]]></req:ResponseMsg>

</soapenv:Body>

</soapenv:Envelope>

```