

API Gateway
Authentication
Authorization
Service Discovery
Routing
Load Balancing
Audit Trail
Metrics
Rate Limiting
Monitoring

Security
Oauth2 API Security
IP Address Whitelisting
Payload encryption
TLS/HTTPS Transport Security
CSRF Token of all webapp requests
Cloudflare (Preven DDOS, Bots, Throttling etc)

API Authentication & Authorization

Authentication
Get access token
Set clientId & clientSecret as form params or in the headers
How to get access token
1. client_id = client_id 2. client_secret = RSA(SHA512(client_secret),timestamp) Timestamp = yyyyymmddHHmmssss

Access Token
POST /v1/oauth/accesstoken?grant_type=client_credentials
Response Body
{ "access_token": "5dRzKxd7rWWDu-pgyAu5cg...", "api_product_list": ["mobile money debit", "auto debit"], "error": "0", "expires_in": 7000, "message": "SUCCESSFUL", "token_type": "Bearer" }

API Request
HEADER Authorization: Bearer Token

System Administration

System Administration
1. User account management
2. Merchant account management
3. Transaction data

User Account Mangement
1. Account Creation
2. Roles management <ul style="list-style-type: none">- Create user- Delete user- Block / Unblock- Reset user password- Permission / Role creation- Reset account

Merchant Management
1. View merchant profile/data
2. Manage merchant API <ul style="list-style-type: none">- Approve- Control Live- Deny
3. Manage merchant account <ul style="list-style-type: none">- Reset password- Reset API- Block account- Suspend- Activate
4. AML Integration
5. Report Generation

Interfaces
Web Portal
Mobile App

Central Configuration

Central Configuration Service
Add new configuration (K,V pair etc)
Update config
Get configurations
Delete configurations
Refresh

Config
POST /v1/config/
Request Body
{ "name": "kk", "value": "vv", "description": "test" }

Service Discovery

Service Discovery
Request Service
Update Service
Get Service
Delete Service
Refresh Service

Register/Add Service
POST /v1/serviceregister/
Response Body
{ "name": "momo debit", "description": "mobile money debit", "productCode": "001", "path": "/momodebit", "serviceEndpoint": "/v1/momodebit", "requestMethod": "post", "status": "1", "secured": "1" }

Transaction Data

Proposed Transactions Table

Components of the transaction data

- Merchant data
 - merchantCode
 - accountId
 - bankCode
- Transaction data
 - serviceCode
 - amount
 - debitAccount
 - creditAccount
 - description (format can be agreed)
 - debitBankCode
 - creditBankCode
 - fee
 - otherFee
 - merchantReference
 - reference
 - customerReference (reference entered by customer)
 - product (eg MTN airtime, Vodacash Momo debit, DSTV BILL). ie descriptive narrative of the main item been been transacted - not for public
 - cardNumber
- Sender data
 - senderName
 - senderPhoneNumber
 - Location (useful for remittance, location can be country)
- Receiver data
 - receiverName
 - receiverPhoneNumber
 - location
- Processor data
 - processor (eg MTN, DSTV, GCB)
 - processorReference
 - processorError
 - processorMessage
- Switch data
 - switchError
 - switchReference (shd be sequential)
 - switchNarration
 - switchFlag (help to indicate status such as reversed, etc)
- SecurityData
 - mac
- Metrics data
 - processingTime(TAT)
 - dbInsertTAT
 - dbUpdateTAT
- Time data
 - requestTime
 - responseTime
- Settlement data
 - Not yet available

Public APIs

Momo Credit - Public
{ "amount" : , //R "elevy" " , //R Elevy tax amount. if transaction is subject to elevy pass the amount here else pass 0. separate service available to calculate elevy. see doc "creditAccount" : "", //R wallet number to credit. format can be either international ISO format 233244777999 or local format 0244777999 "debitBankCode" : "", //R - EMI bank code. see list of bank codes "description" : "", //R - merchant transaction narration "merchantReference" : "", //R - merchant transaction reference "customerNarration" : "", //O but strongly recommended - we advise you take the reason for transfer from the sender. narration entered by customer eg transfer to uncle, "channel" : "", //R - medium transaction is being done eg mobileapp,ussd,web,pos,atm. see doc for list of the channel codes "senderName" : "", //O - but strongly recommended "senderMsisdn" : "", //R "senderLocation" : "", //O "receiverName" : "", //O - but strongly recommended this is always available from the account verification API "receiverMsisdn" : "", //O "receiverLocation" : "" //O }

Momo Debit - Public
{ "amount" : , //R "elevy" " , //R Elevy tax amount. if transaction is subject to elevy pass the amount here else pass 0. separate service available to calculate elevy. see doc "debitAccount" : "", // R - wallet number to debit. format can be either international ISO format 233244777999 or local format 0244777999 "debitBankCode" : "", //R - EMI bank code. see list of bank codes "description" : "", //R - merchant narration "merchantReference" : "", //R - merchant transaction reference "customerNarration" : "", //O but strongly recommended - we advise you take reason for transfer from the sender. narration entered by customer eg transfer to uncle, "channel" : "", //R - medium transaction is being done eg mobile,ussd, web, pos, atm code will be used "senderName" : "", //O - but strongly recommended. name of customer been debited "senderMsisdn" : "", //R - msisdn of number been debited "senderLocation" : "", //O - location of customer been debited }

Auxiliary APIs
get banks
get billers

Todo
Momo Verification
Bill Verification
Airtime
Bill Payment
Bundle Verification
Bundle Payment

Credit Bank Account
{ "amount" : , //R "elevy" " , //R Elevy tax amount. if transaction is subject to elevy pass the amount here else pass 0. separate service available to calculate elevy. see doc "creditAccount" : "", //R bank account number to credit. "debitBankCode" : "", //R - FI bank code. see list of bank codes "description" : "", //R - merchant transaction narration "merchantReference" : "", //R - merchant transaction reference "customerNarration" : "", //O but strongly recommended - we advise you take the reason for transfer from the sender. narration entered by customer eg transfer to uncle, "channel" : "", //R - medium transaction is being done eg mobile,ussd, web, pos, atm code will be used "senderName" : "", //O - but strongly recommended "senderLocation" : "", //R "receiverName" : "", //O - but strongle recommended this is always available from the account verification API "receiverMsisdn" : "", //O "receiverLocation" : "" //O }