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API format

Two type of API will be documented following.

- Wallet Manager API

The API provide by Wallet Manager to receive instructs from merchant. eg. get address, withdraw.

- Merchant API

The API provided at merchant side to receive callbacks. eg. deposit and withdraw status.

Both APIs are using same signing mechanism to protest messages being sent not be forged.

Request

Headers are added in request to verify message. Every program is assigned an address in Ethereum format for identification. It's the program's responsibilities to protect its private key. All messages should be signed before sending out to other program.

5 additional HTTP headers added.

RESTful Request				
Field	Subfield	Type	Optional	Comments

HEADER	X-Message-Address	String		An Ethereum address use to identify the sender 0x8F9092CE573e41d72378Cf8c9d3335584e6843F1
	X-Message-Timestamp	Long		Timestamp of the message sent
	X-Message-Session	String		Snowflake ID generated at program startup.
	X-Message-Sequence	String		Sequence of message in this session.
	X-Message-Signature	String		ECDSA_Sign(HSA265(X-Message-Timestamp#X-Message-Session#X-Message-Sequence#BODY)) Using secp256k1 curve 0x26f868e265605a41c7dae3ee5a5ef6ab03907be1e0930ac1ecc7023db01476ae30ba33429d5a5975382cccf759c735f21c83949d1ccc39d26875426b4faae371c
Method		String		GET/POST/PUT/DELETE
Path parameter			Y	
Body		Json	Y	

Response

Response JSON Message (Similar to the response JSON RPC 2.0)				
JSON-RPC 2.0 Specification				
Field	Subfield	Type	Default	Comments
HTTP STATUS	HTTP STATUS	Number	200	
result		Object		This member is REQUIRED on success. This member MUST NOT exist if there was an error invoking the method. The value of this member is determined by the method invoked on the Server.errorThis member is REQUIRED on error. This member MUST NOT exist if there was no error triggered during invocation. The value for this member MUST be an Object.
error	code	Integer		A Number that indicates the error type that occurred. This MUST be an integer.
	message	String		A String providing a short description of the error. The message SHOULD be limited to a concise single sentence.
	data	Any		A Primitive or Structured value that contains additional information about the error. This may be omitted. The value of this member is defined by the Server (e.g. detailed error information, nested errors etc.).

Wallet Manager APIs

Get address

Get a client address by client ID.

API	Method	Type	Field	Data Type	Required	Examples	Comment
/access/get_address	POST	Header	X-Message-XXX		Y		5 extended headers mentioned.
			Content-Type	String	Y	application/json	
		request	merchant_id	Long	Y	1001	Unique order id for each merchant
			client_id	String	Y	8000001	
			chain_type	Enum	Y	2 (ETH)	enum_chain_type
			chain_id	Long	Y	1	Chain ID
		response	address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	Address returned

Batch sweep

Sweep coin from client address to a Hot Wallet or Merchant Dest Wallet.

API	Method	Type	Field	Sub-field	Data Type	Required	Examples	Comment
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/access/batch_sweep	POST	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		request	merchant_id		Long	Y	1001	
			merchant_order_id		String		"128554693"	Unique order id for each merchant
			chain_type		Enum	Y	2 (ETH)	enum_chain_type
			chain_id		Long	Y	1	Chain ID
			asset_name		String	Y	"USDC"	Token name
			threshold		String	Y	"30000000"	Lower limit of balance to be swept
			decimals		Integer	Y	18	
			gether_address		String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	gether address
			invoker_address		String		"0x73b8b9A007A2F6eC2139873002fE6752D20510BD"	Invoker address
			preview		Boolean	Y	true	Whether just to preview. Default true
		Response	batch_id		Long			If not preview
			sweep_records		Json Array	Y		
				wallet_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	Parent wallet address to sign
				path	String	Y	"m/44'/60'/0'/0/0"	
				from_address	String	Y	"0xfcD3e4C3314c7a2F180C6E2A868de0Ce7D3F2550"	
				to_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	
				amount	String	Y	10000000000	
				decimal	Integer	Y	6	
			request_time			Y	1658215829310	

Batch withdraw

Send batch withdraw requests. If success, return a batch id as reference No.

API	Method	Type	Field	Sub Field	Data Type	Required	Examples	Comment
/access/batch_withdraw	POST	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Request	merchant_id		Long	Y	1001	
			chain_type		Enum	Y	2 (ETH)	1: BTC, 2 ETH
			chain_id		Long	Y	1	Chain ID
			asset_name		String	Y	"USDC"	Token name
			orders		Json Array	Y		
				merchant_order_id	String	Y	"128554693"	Unique order id for each merchant
				amount	String	Y	"30000000"	
				decimals	Integer	Y	6	
				to_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	
			client_data		text			Any client data transparent passed to merchant signer and callback
		Response	batch_id		Long	Y	123145623352	
			request_time			Y	1658215829310	

Enquiry APIs

Enquiry deposit transactions by address

API	Method	Type	Field	Sub Field	Data Type	Required	Examples	Comment
/access\ /{chain_type}/{chain_id}\ /transfer/addr/{wallet_address}\ /deposit/{asset_name}	GET Enquiry deposit transactions by address	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Path	chain_type		Enum	Y		
			chain_id		Long	Y		
			address		String	Y		
			asset_name		String			
		Request	offset		Integer			default 0
			limit		Integer			default 5
		Response	transactions		Json Array			
				merchant_id	Long			
				chain_type	Enum			
				chain_id	Integer			
				tx_hash	String			
				transfer_seq	Integer			
				block_hash	String			
				block_number	Long			
				asset_name	String			
				trans_type	Enum		Deposit or Withdraw_Deposit	enum_transaction_type
				amount	Decimal			
				is_fee	Boolean		false	
				tx_status	Enum			
				trans_fee	Decimal			
				trans_date	Datetime			
				wallet_address	String			
				direction	Enum		IN	enum_direction
				from_address	String			
				to_address	String			
				confirmations	Integer			
				status	Enum			
				wallet_settlement_date	Datetime			
				creatd_date	Datetime			
				post_balance	Decimal			

Enquiry deposit transactions by tx_hash

API	Method	Type	Field	Sub Field	Data Type	Required	Examples	Comment
/access\ /{chain_type}/{chain_id}\ /transfer/hash/{tx_hash}\ /deposit	GET Enquiry deposit transactions by tx_hash	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Path	chain_type		Enum	Y		
			chain_id		Long	Y		
			tx_hash		String	Y		
		Request	N/A					
		Response	Same as response of previous deposit inquiry					

Enquiry withdraw transactions by merchant_order_id

API	Method	Type	Field	Sub Field	Data Type	Required	Examples	Comment
/access\ /withdraw\ /order/{merchant_order_id}	GET Enquiry withdraw transactions by merchant_order_id	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Path	merchant_order_id		String	Y		
		Request	N/A					
		Response	merchant_id		Long	Y		
			batch_id		Long	Y		
			operation_seq		Integer	Y		
			merchant_order_id		String	Y		
			path		String	Y		
			from_address		String	Y		
			to_address		String	Y		
			invoker_address		String			
			operation_type		Enum	Y		enum_operation_type
			amount		Decimal	Y		
			asset_name		String	Y		
			status		Enum	Y		enum_operation_status
			create_date		Datetime	Y		
			last_modified_date		Datetime	Y		

Enquiry withdraw transactions by batch_id

API	Method	Type	Field	Sub Field	Data Type	Required	Examples	Comment
/access\ /withdraw\ /batch/{batch_id}	GET Enquiry withdraw transactions by batch_id	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Path	batch_id		Long	Y		
		Request	N/A					
		Response	merchant_id		Long	Y		
			chain_type		Enum	Y		enum_chain_type
			chain_id		Long	Y		
			operation_type		Enum	Y		enum_operation_type
			total_operation		Integer	Y		
			total_step		Integer	Y		
			current_step		Integer	Y		
			status		Enum	Y		enum_operation_status
			create_date		Datetime	Y		
			last_modified_date		Datetime	Y		
			operations		Json Array	Y		
			Response of inquiry withdraw by merchant_order_id					

Merchant APIs

Deposit status

API	Method	Type	Field	Sub-field	Data Type	Required	Examples	Comment
/(deposit_statuses)	POST	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	

		Request	type		Constant	Y	deposit_status	
			data		JSON Objecgt	Y		
				id	Long	Y		Record ID
				merchant_id	Long	Y	1001	Merchant ID
				chain_type	Enum	Y	2 (ETH)	enum_chain_type
				chain_id	Long	Y	1	
				client_id	String	Y	8000001	Client ID, add in data layer, find by wallet address
				wallet_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	Deposit to wallet address
				from_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	
				asset_name	String	Y	"USDC"	
				amount	String	Y	"30000000"	
				decimals	Integer	Y	6	
				status	Enum	Y	2 (ConfirmedSuccess)	enum_transaction_status
				updated_time	Long	Y	1658215829310	
				block_number	Long	Y	10441055	
				block_hash	String	Y	"0x712002f4ae00b664d7bed3f82d9403bec80c74fce976a9ba4924f0cdfc497f5"	
				block_time	Long	Y	1658142658	In second
				tx_hash	String		"0x3cdcdc2c66a1c9bdbe872051ef6e24de2787b7b635fc514cd73d58a9bc14bbc9"	
		Response	result		Boolean	Y	true	

Operation status

API	Method	Type	Field	Sub-field	Data Type	Required	Examples	Comment
/ (operation_status)	POST	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Request (From operation_status of Data Layer)	type		Constant	Y	operation_status	
			data		JSON Object	Y		
				batch_id	Long	Y	3	
				operation_type	Enum	Y	1 (Withdraw)	enum_operation_type 1 (Withdraw) 2 (Sweep)
				operation_seq	Integer	Y	1	Operation sequence in a batch
				merchant_order_id	String	Y	"128554693"	Order information
				merchant_id	Long	Y	1001	
				chain_type	Enum	Y	2 (ETH)	
				chain_id	Long	Y	1	
				asset_name	String	Y	"USDC"	
				amount	String	Y	"30000000"	
				decimals	Integer	Y	6	
				wallet_version	Integer		1	
				path	String		"m/44'/60'/0'/0/0"	
				from_address	String	Y	"0x2d1366C71e86F20De3eeCc3f00F270D78A8CEFe5"	

				to_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	
				invoker_address	String		"0x2d1366C71e86F20De3eeCc3f00F270D78A8CEFe5"	
				client_data				
				status	Enum	Y	2 (Submitted)	enum_operation_status -3 (SignFailed) -2 (Failed) -1 (Rejected) 1 (Requeusted) 2 (Submitted) 6 (Signed) 3 (Executing) 4 (Completed)
				updated_time	Long		1658215829310	
				transactions	Json Array			
				-- block_number	Long		10441055	Transaction information
				-- block_hash	String	Y	"0x712002f4ae00b664d7bed3f82d9403bec80c74fce976a9ba4924f0cdfc497f5"	
				-- block_time	Long	Y	1658142658	
				-- tx_hash	String		"0x3cdcde2c66a1c9bdbe872051ef6e24de2787b7b635fc514cd73d58a9bc14bbc9"	
				-- status	Enum	Y	ConfirmedSuccess	enum_operation_transaction_status
				-- remark	String		Topup/Transfer	
	Response	result			Boolean	Y	true	

Batch operation status

API	Method	Type	Field	Sub-field	Data Type	Required	Examples	Comment
/ (operation_batch_status)	POST	Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Request (From operation_batch_status of Data Layer)	type		Constant	Y	operation_batch_status	
			data		JSON Object			
				batch_id	Long	Y	3	
				operation_type	Enum	Y	1 (Withdraw)	enum_operation_type 1 (Withdraw) 2 (Sweep)
				merchant_id	Long	Y	1001	
				chain_type	Enum	Y	2 (ETH)	enum_chain_type
				chain_id	Long		1	Chain ID
				asset_name	String		"USDC"	
				client_data	String			
				status	Enum		2 (Submitted)	enum_operation_batch_status -3 (SignFailed) -2 (Failed) -1 (Rejected) 1 (Requeusted) 2 (Submitted) 6 (Signed) 3 (Executing) 4 (Completed) 5 (Partial Completed)
				updated_time	Long		1658215829310	
	Response	result			Boolean	Y	true	

Verify withdraw transaction

API	Method	Type	Field	Sub-field	Data Type	Required	Examples	Comment
/ (verify_withdraw_transaction)		Header	X-Message-XXX			Y		5 extended headers mentioned.
			Content-Type		String	Y	application/json	
		Request	type		Constant	Y	verify_withdraw_transaction	
			data		JSON Object			
				merchant_id	Long	Y	1001	
				operation_type	Enum	Y	withdraw	enum_operation_type 1 (Withdraw) 2 (Sweep)
				batch_id	Long	Y	123545663	
				chain_type	Enum	Y	2 (ETH)	enum_chain_type
				chain_id	Long	Y	1	
				total_operation	Integer	Y	10	
				client_data	text		1658215829310	
				request_time				
				operations	Json Array			Fields in "operations" refer to request fields of /signer/sign_transaction
				-- merchant_order_id	Long	Y	128554693	Unique order id for each merchant
				-- merchant_id	Long	Y	1001	
				-- operation_seq	Integer	Y	10	
				-- operation_type	Enum	Y	2 (Withdraw)	enum_operation_type
				-- batch_id	Long	Y	123545663	
				-- wallet_version	Integer		1	Code wallet version
				-- wallet_path	String	Y	"m/44/60/0/0/1"	When operation_type == sweep
				-- asset_name	String	Y	"USDC"	asset_name
				-- amount	String	Y	"30000000"	
				-- decimals	Integer	Y	6	
				-- from_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	
				-- to_address	String	Y	"0x8F9092CE573e41d72378Cf8c9d3335584e6843F1"	
				-- request_time	Long		1658215829310	
		Response	result		Boolean	Y	true	

Appendix

Example codes

Please refer to examples in github projects

Java

[GitHub - wallet-manager/wallet-manager-client-java](#)

NodeJS

[GitHub - wallet-manager/wallet-manager-client](#)

Enum

enum_chain_type

Name	Integer Value	Comments
BTC	1	Bit coin
ETH	2	Ethereum
TRON	3	Tron

enum_transaction_status

Name	Integer Value	Comments
ConfirmedFail	-1	Transaction is fail.
Unconfirmed	1	Transaction is broadcasted. It can be pending or just mined but not yet confirmed. txStatus = true means success and txStatus = false means fail.
ConfirmedSuccess	2	Transaction is success and confirmed
Invalid	3	Transaction invalid because of uncle or invalid block.

Support chain list

Chain Name	Chain Type	Chain ID	Chain Code	Native Token
Bitcoin	BTC	1	BTC	BTC
Ethereum	ETH	1	ETH	ETH
Rinkeby	ETH	4	RIN	ETH
Binance	ETH	56	BSC	BNB
Binance Testnet	ETH	97	BSCT	BNB
Sepolia	ETH	11155111	SEP	ETH
Tron	TRON	1	TRX	TRX

Wallet Type

Value	Name	Remarks
1	Client wallet	Addresses assigned to client for deposit
2	Hot wallet	Merchant wallet for withdraw.
3	Invoker wallet	Merchant wallet to pay gas fee.
4	Sweep dest wallet.	Merchant wallet for receiving coins swept out from client wallets.

Transaction Type

	From	0	1	2	3	4
To	Wallet Type	External Wallet	Client Wallet	Hot Wallet	Invoker Wallet	Sweep Dest Wallet
0	External Wallet	0 N/A	10 LOSS	20 Withdraw	30 LOSS	40 Merchant Withdraw
1	Client Wallet	1 Client Deposit	11 CAUTION	21 Withdraw-Deposit	31 Client Wallet Topup	41 CAUTION
2	Hot Wallet	2 Hot Wallet Deposit	12 Sweep to Hot Wallet	22 Hot Wallet Transfer	32 Hot Wallet Topup	42 Provision for Withdraw
3	Invoker Wallet	3 Invoker Deposit	13 CAUTION	23 CAUTION	33 Invoker Transfer	43 CAUTION
4	Sweep Dest Wallet	4 Merchant Deposit	14 Sweep	24 CAUTION	34 CAUTION	44 Merchant Transfer
9	Miner (Fee)	9 N/A	19 Sweep Fee	29 Withdraw Fee	39 Topup Fee	49 Merchant Withdraw Fee

Direction

Value	Name	Remarks
1	In	Cash in transaction
2	Out	Cash out trandaction

Error Code

Code	Error Message
1	
2	
3	