

Claims

1. A computer implemented method for providing a platform of a plurality of services that are associated with a blockchain, the platform being provided for a plurality of clients, the method implemented by a platform processor associated with an application programming interface (API), the method comprising the steps of:
receiving a request from a given client among the plurality of clients, the request pertaining to a given service among the plurality of services, the request from the given client being based on a Hypertext Transfer Protocol (HTTP) transmission protocol format;
based on a determination that the client identity and/or request is/are valid, obtaining a destination address associated with the given service;
processing the request for the given service based on at least one blockchain transaction corresponding to the obtained destination address to obtain an output script; and
sending a result associated with the output script to the given client, the result being provided based on the HTTP transmission protocol format.
2. The method as claimed in claim 1 wherein platform processor is implemented as an HTTP API endpoint.
3. The method as claimed in claim 2 wherein the platform processor is implemented as a Representational State Transfer (REST) endpoint.
4. The method as claimed in any preceding claim wherein the platform processor comprises or is associated with a plurality of processors, each configured for implementing a given service among the plurality of services on the blockchain, and each associated with a specific destination address or endpoint that is unique to the respective processor.
5. The method as claimed in any preceding wherein the platform processor is associated with an API converter, the API converter is configured for performing the steps of:
receiving the request from the given client in the HTTP transmission protocol format;
converting a received request to a Remote procedure Call (RPC) format, and
sending the RPC request to a given processor among the plurality of processors that is configured to implement the given service identified in the received request;
receiving a response associated with at least one blockchain transaction from the given processor in an RPC format; and

converting the respective response to be sent to the client using the HTTP transmission protocol.

6. The method as claimed in any preceding claim wherein the received request is a HTTP GET or POST or PUT or PATCH request that includes or is associated with a client identifier for the given client and a service identifier for the given service requested, and wherein the result sent to the client is a HTTP POST request based on the client identifier for the given client.

7. The method as claimed in claim 6 comprising validating the client based on the client identifier and a record corresponding to the client identifier, the record associated with the platform processor; and based on a successful validation of the client, determining if the received request from the client is valid based on the service identifier and an attribute or setting included in the respective record.

8. The method as claimed in claims 6 or 7 wherein the client identifier is an alias that is provided for a given client, the alias being specific to the given client and provided by an alias-based addressing service, the addressing service having a machine readable resource that is accessible from a defined or well-known location, the machine readable resource including one or more capabilities pertaining to the given client.

9. The method as claimed in claim 8 wherein the alias is associated with a domain name for the given client.

10. The method as claimed in any preceding claim wherein the platform includes at least one or more of the following services implemented using the blockchain:

data services for writing/submitting data into the blockchain to alter a state of the blockchain;
data services for reading/obtaining data reflecting the current state of the blockchain;
services associated with simplified payment verification for transactions associated with the blockchain;

services associated with the management of one or more event streams and/or smart contracts associated with the blockchain;

services associated with the management of a digital wallet framework for a plurality of clients associated with the blockchain;

services associated with the provision of peer- to -peer communication channels;

services associated with data storage.

11. A computer implemented method for accessing a platform of a plurality of services that are associated with a blockchain, the platform being provided for a plurality of clients, the method implemented by one or more processors of a given client among the plurality of clients, the method comprising the steps of:

obtaining or identifying an application programming interface (API) endpoint associated with one or more processors associated with the platform;

sending a request pertaining to a given service among the plurality of services, the request including associated with a client identifier for the given client and a service identifier for the given service requested, wherein the request is sent based on a Hypertext Transfer Protocol (HTTP) transmission protocol format; and

receiving a result pertaining to an output script of a blockchain transaction associated with the request, said result being provided to the client based on the HTTP transmission protocol format.

12. A computer implemented method for implementing a data writing service for transactions associated with a blockchain, the method implemented by a platform processor associated with an application programming interface (API), the method comprising the steps of:

receiving a request from a client, the request relating to an event stream ES implemented using the blockchain, the request from the client being based on a Hypertext Transfer Protocol (HTTP) transmission protocol format;

determining a current state of the event Stream $ES_{i=n}$, wherein i is an integer from 0 to N , each integer i representing a given state of the event stream ES, whereby $i = 0$ represents the created event stream ES, $i = n$ represents the event stream ES in a current state in the blockchain, and $i = N$ represents a final state of the event stream ES;

processing a new event E_{n+1} for the event stream ES based on the received request by the steps of:

creating a blockchain transaction TX_{n+1} , the blockchain transaction TX_{n+1} including:

an input associated with a transaction output (TXO_n) from a previous transaction TX_n ; and

an unspent output ($UTXO_{n+1}$) associated with event data representing the new event E_{n+1} ;

submitting the transaction TX_{n+1} to the blockchain;

wherein, responsive to said submission the method includes updating the current state of the event stream to be $ES_{i=n+1}$ based on the newly created event E_{n+1} , such that $ES_{i=n} = ES_{n+1}$; and

sending a result based on the updated current state ES_{n+1} , the result being provided based on the HTTP transmission protocol format.