CLAIMS

What is claimed is:

1. A computer-implemented method (500) for implementing a blockchain-based workflow, the computer-implemented method comprising:

receiving (502) a workflow specification, wherein the workflow specification defines a plurality of states of a workflow between which the workflow can transition and indicates one or more state transition methods (312) to be performed by a smart contract (310) on a blockchain network and one or more client service methods (372) to be executed by one or more client devices of the blockchain network participating in the workflow;

generating (504), according to the workflow specification, the smart contract (310) to be executed on the blockchain network, wherein the smart contract (310) comprises the one or more state transition methods (312), a current state representing a current state of the workflow and an event indicating a change of the current state of the smart contract, wherein the smart contract (310) stores the current state and the event into a log file on the blockchain network, and wherein the change of the current state of the smart contract and the event recorded in the blockchain network automatically triggers at least one of the one or more client service methods (372) to be executed of the blockchain network;

generating (506), according to the workflow specification and for each client device of the one or more client devices, a configurable client service logic (370), the configurable client service logic (370) to be executed by the one or more client devices of the blockchain network, the configurable client service logic (370) comprising the one or more client service methods (372), wherein at least one client service method (372) of the one or more client service methods (372) is configured to change the current state in the smart contract (310), wherein the at least one of the one or more client service methods (372) defines a triggering state, a triggering event, and a target state, wherein the at least one of the one or more client service methods (372) is configured to generate the target state in response to determining that the current state of the smart contract matches the triggering state and that the event of the smart contract matches the triggering event, wherein the generation of the target state results in a contract call to the smart contract (310) to execute a state transition method (312) of the one or more state transition methods (312) to change the current state of the smart contract to the target state; and

deploying (508) the smart contract (310) to the blockchain network;

wherein the smart contract (310) further comprises one or more roles, wherein the one or more roles provide access control to the one or more state transition methods (312) such that a blockchain account associated with one of the one or more roles is permitted to access one or more of the one or more states transition methods.

2. The computer-implemented method of claim 1, wherein the configurable client service logic comprises one or more application interfaces that access the one or more state transition methods (312) defined in the smart contract (310).

3. The computer-implemented method of any preceding claim, wherein the configurable client service logic comprises a software development kit, SDK, configurable by the client device of the blockchain network.

4. The computer-implemented method of claim 1, further comprising:

in response to receiving the contract call, executing, by the smart contract (310), the state transition method (312) to change the current state of the smart contract to the target state.

5. The computer-implemented method of claim 4, further comprising:

recording, by the blockchain network, the target state as the current state of the smart contract and an event that indicates that the current state of the smart contract has changed.

6. The computer-implemented method of any preceding claim, wherein the blockchain-based workflow comprises the one or more state transition methods (312) of the smart contract (310) and the one or more client service methods (372) of the configurable client service logic.

7. A computer program product for implementing a blockchain-based workflow, the computer program product comprising a plurality of modules (602-608) comprising

instructions which, when executed by a one or more processors, cause the one or more processors to perform the computer-implemented method of any one of claims 1 to 6.

8. A system for implementing a blockchain-based workflow, comprising:

one or more processors; and

one or more computer-readable memories coupled to the one or more processors and having instructions stored thereon that are executable by the one or more processors to perform the computer-implemented method of any one of claims 1 to 6.