CLAIMS

1. A method for a model-driven extraction of event data representing an event occurring on a blockchain network (120) by a computational device with access to the blockchain network (120), wherein the computational device is configured as an ETL-device for executing an ETL-code to modify a data content of an external data structure external of the blockchain network (120) using the extracted event data, wherein the ETL-device is comprised by the blockchain network (120) in form of an ETL-peer, the method comprising:

detecting the event occurring on the blockchain network (120), wherein the detecting of the event comprises a direct event capturing by detecting event data being provided by the ETL-peer to be added to the blockchain as part of a block of the blockchain,

determining an event schema for the detected event, wherein the event schema identifies a logical structure of the event data representing the detected event,

providing the ETL-code, wherein the ETL-code comprises a set of machine-executable instructions configured for extracting the event data representing the detected event, transforming the extracted event data using the event schema to comply with a data model defining a logical structure of the external data structure and loading the transformed data to the external data structure to modify the data content of the external data structure,

executing the provided ETL-code, wherein the execution of the ETL-code causes the ETL-device to:

extract the event data representing the detected event,

transform the extracted event data using the event schema to comply with the data model of the external data structure,

load the transformed event data to the external data structure to modify the data content of the external data structure.

2. The method of claim 1, wherein the loading of the transformed event data comprises messaging the transformed event data by the ETL-device via a messaging network to an external computational device external of the blockchain network (120), wherein the external computational device manages the external data structure.

3. The method of any one of the preceding claims, wherein the providing of the ETL-code comprises:

mapping the event data to the logical structure of the external data structure, wherein for the mapping the determined event schema as well as the data model of the external data structure are used,

generating the ETL-code for the event using the mapping.

4. The method of any one of claims 1 to 3, wherein the ETL-device is an external computational device configured to monitor data exchanged on the blockchain network (120) using a cryptographically secured messaging connection to a peer of the blockchain network (120).

5. The method of claim 1, wherein the detecting of the event comprises monitoring data being routed on the blockchain network (120) via the ETL-peer using a communication protocol of the blockchain network (120).

6. The method of any one of the preceding claims, wherein the event schema is determined using a library providing one or more event schemas identifying logical structures of event data representing types of events potentially occurring on the blockchain network (120).

7. The method of claim 6, wherein, in case none of the event schemas provided by the library matches the logical structure of the event data of the detected event, the method further comprises:

analyzing the logical structure of the event data of the detected event,

determining an additional event schema matching the logical structure of the event data of the detected event,

adding the additional event schema to the library.

8. The method of any one of the preceding claims, wherein the determining of the event schema comprises tagging one or more data elements comprised by the event data using the determined event schema, wherein the tags identify structural types of data elements defined by the determined event schema.

9. The method of claim 8, wherein the tags are used for mapping tagged data elements to structural elements defined by the logical structure of the external data structure.

10. The method of any one of the preceding claims, wherein the external data structure is provided in form of a database and a database management system for managing the database using the data model.

11. The method of claim 10, wherein the data model used by the database management system for managing the database is one of the following data models: a relational data model, a hierarchical data model, a network data model, an object-oriented data model, a graph data model, an entity-relationship model data model, a key value data model, a multidimensional data model, a column-oriented data model, a document oriented data model and a data stream data model.

12. The method of any one of the preceding claims, wherein the transforming of the extracted event data comprises adding one or more structural IDs according to the data model to the extracted event data.

13. The method of any one of the preceding claims, wherein the extracting of event data, in case the detected event comprises a data delete, further comprises executing a callback in order to retrieve additional data from the blockchain network (120) and using the additional data to determine one or more data elements to be deleted from the external data structure in order to modify the data content of the external data structure in accordance with the data delete.

14. A computer program product comprising a non-volatile computer-readable storage medium having computer-readable program code embodied therewith for a model-driven extraction of event data representing an event occurring on a blockchain network (120) by a computational device with access to the blockchain network (120), wherein the computational device is configured as an ETL-device for executing an ETL-code to modify a data content of an external data structure external of the blockchain network (120) using the extracted event data, wherein the ETL-device is comprised by the blockchain network (120) in form of an ETL-peer, wherein an execution of the program code by a processor of the ETL-device causes the processor to control the ETL-device to:

detect the event occurring on the blockchain network (120), wherein the detecting of the event comprises a direct event capturing by detecting event data being provided by the ETL-peer to be added to the blockchain as part of a block of the blockchain,

determine an event schema for the detected event, wherein the event schema identifies a logical structure of the event data representing the detected event,

provide the ETL-code, wherein the ETL-code comprises a set of machine-executable instructions configured for extracting the event data representing the detected event, transforming the extracted event data using the event schema to comply with a data model defining a logical structure of the external data structure and loading the transformed data to the external data structure to modify the data content of the external data structure,

execute the provided ETL-code, wherein the execution of the ETL-code causes the ETL-device to:

extract the event data representing the detected event,

transform the extracted event data using the event schema to comply with the data model of the external data structure,

load the transformed event data to the external data structure to modify the data content of the external data structure.

15. A computational device with access to a blockchain network (120) for a model-driven extraction of event data representing an event occurring on the blockchain network (120), wherein the computational device is configured as an ETL-device for executing an ETL-code to modify a data content of an external data structure external of the blockchain network (120) using the extracted event data, wherein the ETL-device is comprised by the blockchain network (120) in form of an ETL-peer, wherein the ETL-device comprises a processor and a memory storing machine-executable program instructions, wherein executing the program instructions by the processor causes the processor to control the ETL-device to:

detect the event occurring on the blockchain network (120), wherein the detecting of the event comprises a direct event capturing by detecting event data being provided by the ETL-peer to be added to the blockchain as part of a block of the blockchain,

determine an event schema for the detected event, wherein the event schema identifies a logical structure of the event data representing the detected event,

provide the ETL-code, wherein the ETL-code comprises a set of machine-executable instructions configured for extracting the event data representing the detected event, transforming the extracted event data using the event schema to comply with a data model defining a logical structure of the external data structure and loading the transformed data to the external data structure to modify the data content of the external data structure,

execute the provided ETL-code, wherein the execution of the ETL-code causes the ETL-device to:

extract the event data representing the detected event,

transform the extracted event data using the event schema to comply with the data model of the external data structure,

load the transformed event data to the external data structure to modify the data content of the external data structure.