CLAIMS

1. A computer-implemented method comprising:

receiving, by a storage system, a processing request of first data generated by a distributive ledger system, wherein the distributive ledger system stores data in one or more blocks in a blockchain, and generates two or more types of data of the distributive ledger system comprising block data and state data, wherein the block data comprise at least one block in the blockchain, and the at least one block comprises a hash value of a previous block in the blockchain, wherein the state data comprise a world state of the distributive ledger system;

in response to determining a type of the first data generated by the distributive ledger system to be the block data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified for processing the block data, wherein the corresponding type of the processing engine specified for processing the block data is configured with one or more first functions based on a characteristic of the block data;

receiving, by the storage system, a processing request of second data generated by the distributive ledger system; and

in response to determining a type of the second data generated by the distributive ledger system to be the state data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified for processing the state data, wherein the corresponding type of the processing engine specified for processing the state data is configured with one or more second functions based on a characteristic of the state data, and the one or more first functions are different from the one or more second functions,

wherein the state data comprises current state data and history state data, and wherein in response to determining a type of the second data generated by the distributive ledger system to be the state data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified for processing the state data, wherein the corresponding type of the processing engine specified for processing the state data is configured with one or more second functions based on a

characteristic of the state data, and the one or more first functions are different from the one or more second functions comprises:

in response to determining a type of the second data generated by the distributive ledger system to be the current state data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified for processing the current state data, wherein the corresponding type of the processing engine specified for processing the current state data is configured with one or more fourth functions based on a characteristic of the current state data, and the one or more first functions are different from the one or more fourth functions; or

in response to determining the type of the second data generated by the distributive ledger system to be the history state data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified for processing the history state data, wherein the corresponding type of the processing engine specified for processing the history state data is configured with one or more fifth functions based on a characteristic of the history state data, the one or more first functions are different from the one or more fifth functions, and

wherein the one or more fourth functions comprise tiering, erasure coding, compression, snapshot, and compaction of the current state data in the storage system, and wherein the one or more fifth functions comprise tiering, erasure coding, and compression of the history state data in the storage system.

2. The computer-implemented method of claim 1, further comprising: receiving, by the storage system, configurations of a plurality of processing engines, wherein the configurations configure a respective type of a processing engine for processing each of the two or more types of the data of the distributive ledger system according to a characteristic of the each of the two or more types of the data.

3. The computer-implemented method of claim 1, wherein the two or more types of data of the distributive ledger system further comprise transaction data, and the method further comprises:

receiving, by the storage system, a processing request of third data generated by the distributive ledger system; and

in response to determining a type of the third data generated by the distributive ledger system to be the transaction data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified for processing the transaction data, wherein the corresponding type of the processing engine specified for processing the transaction data is configured with one or more third functions based on a characteristic of the transaction data.

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

receiving, by the storage system, the processing request of the first data generated by the distributive ledger system comprises receiving, by the storage system, an input/output (I/O) request of the block data generated by the distributive ledger system;

the corresponding type of the processing engine specified for processing the block data of the distributive ledger system comprises a corresponding type of an input/output (I/O) processing engine specified for performing a read or write operation of the block data of the distributive ledger system based on a characteristic of the block data;

receiving, by the storage system, the processing request of the second data generated by the distributive ledger system comprises receiving, by the storage system, an input/output (I/O) request of the state data generated by the distributive ledger system; and

the corresponding type of the processing engine specified for processing the state data of the distributive ledger system comprises a corresponding type of an input/output (I/O) processing engine specified for performing a read or write operation of the state data of the distributive ledger system based on a characteristic of the state data.

5. The computer-implemented method of claim 1, wherein:

receiving, by the storage system, the processing request of the first data generated by the distributive ledger system comprises receiving, by the storage system, a data management request of the block data generated by the distributive ledger system;

the corresponding type of the processing engine specified for processing the block data of the distributive ledger system comprises a corresponding type of a data management processing engine specified for performing a first data management operation of the block data of the distributive ledger system based on a characteristic of the block data;

receiving, by the storage system, the processing request of the second data generated by the distributive ledger system comprises receiving, by the storage system, a data management request of the state data generated by the distributive ledger system; and

the corresponding type of the processing engine specified for processing the state data of the distributive ledger system comprises a corresponding type of a data management processing engine specified for performing a second data management operation of the state data of the distributive ledger system based on a characteristic of the state data.

6. The computer-implemented method of claim 1, wherein the one or more first functions comprise tiering, erasure coding and compression of the block data in the storage system.

7. The computer-implemented method of claim 1, wherein the one or more second functions comprise snapshot and compaction of the state data in the storage system.

8. The computer-implemented method of claim 1, wherein the two or more types of data of the distributive ledger system further comprise index data, and the method further comprises:

receiving, by the storage system, a processing request of fourth data generated by the distributive ledger system; and

in response to determining a type of the fourth data generated by the distributive ledger system to be the index data among the two or more types of the data of the distributive ledger system, applying, by the storage system, a corresponding type of a processing engine specified

for processing the index data, wherein the corresponding type of the processing engine specified for processing the index data is configured with one or more sixth functions based on a characteristic of the index data.

9. An apparatus for processing data request, the apparatus comprising a plurality of modules for performing the computer-implemented method of any one of claims 1 to 8.

10. A system for processing data request, 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 8.