WHAT IS CLAIMED IS:

1. A computer-implemented method for distributed data storage in a blockchain network, the method comprising:

receiving a request to store a data item in the blockchain network;

in response to receiving the request:

dividing the data item into a plurality of data partitions;

assigning each data partition to one of different nodes in the blockchain network, wherein each of the different nodes stores the assigned data partition in a privately-maintained distributed hash table and the different nodes do not share respectively assigned data partitions; and

storing information associated with each data partition in a blockchain maintained by the blockchain network, the information including a storage location of each data partition.

2. The method of claim 1, further comprising:

receiving a request to retrieve the stored data item; and

in response to receiving the request to retrieve the stored data item:

retrieving each stored data partition from an assigned node based on the information including the storage location of each data partition stored in the blockchain;

reconstructing the stored data item from stored data partitions; and

sending a response to the request to retrieve the stored data item, wherein the response includes the reconstructed data item.

3. The method of claim 1, further comprising storing instructions in the blockchain for restoring the data item from stored data partitions.

4. The method of claim 2, wherein reconstructing the stored data item includes concatenating the retrieved each stored data partition to generate a copy of the data item.

5. The method of claim 2, further comprising storing a record of the request to retrieve the stored data item in the blockchain.

6. The method of claim 2, wherein retrieving each stored data partition, reconstructing the stored data item from the stored data partitions, and sending the response to the request to retrieve are performed by a smart contract stored in the blockchain and executing on the blockchain network.

7. The method of claim 1, wherein the privately-maintained distributed hash table stores a file path to the assigned data partition, a value of the assigned data partition, and an identity of a node associated with the assigned data partition.

8. The method of claim 1, wherein storing information associated with each data partition in the blockchain includes storing a path to each data partition on the blockchain.

9. A non-transitory computer-readable storage medium coupled to one or more computers and configured with instructions executable by the one or more computers to:

receive a request to store a data item in a blockchain network;

in response to receiving the request:

divide the data item into a plurality of data partitions;

assign each data partition to one of different nodes in the blockchain network, wherein each of the different nodes stores the assigned data partition in a privately-maintained distributed hash table and the different nodes do not share respectively assigned data partitions; and

store information associated with each data partition in a blockchain maintained by the blockchain network, the information including a storage location of each data partition.

10. The non-transitory, computer-readable medium of claim 9, further configured with instructions executable by the one or more computers to:

receiving a request to retrieve the stored data item; and

in response to receiving the request to retrieve the stored data item:

retrieving each stored data partition from an assigned node based on the information including the storage location of each data partition stored in the blockchain;

reconstructing the stored data item from stored data partitions; and

sending a response to the request to retrieve the stored data item, wherein the response includes the reconstructed data item.

11. The non-transitory, computer-readable medium of claim 9, configured with instructions executable by the one or more computers to storing instructions in the blockchain for restoring the data item from stored data partitions.

12. The non-transitory, computer-readable medium of claim 10, wherein reconstructing the stored data item includes concatenating the retrieved each stored data partition to generate a copy of the data item.

13. The non-transitory, computer-readable medium of claim 10, configured with instructions executable by the one or more computers to storing a record of the request to retrieve the stored data item in the blockchain.

14. The non-transitory, computer-readable medium of claim 10, wherein retrieving each stored data partition, reconstructing the stored data item from the stored data partitions, and sending the response to the request to retrieve are performed by a smart contract stored in the blockchain and executing on the blockchain network.

15. The non-transitory, computer-readable medium of claim 9, wherein the privately-maintained distributed hash table stores a file path to the assigned data partition, a value of the assigned data partition, and an identity of a node associated with the assigned data partition.

16. The non-transitory, computer-readable medium of claim 9, wherein storing information associated with each data partition in the blockchain includes storing a path to each data partition on the blockchain.

17. A system, comprising:

one or more computers; and

one or more computer-readable memories coupled to the one or more computers and configured with instructions executable by the one or more computers to:

receive a request to store a data item in a blockchain network;

in response to receiving the request:

divide the data item into a plurality of data partitions;

assign each data partition to one of different nodes in the blockchain network, wherein each of the different nodes stores the assigned data partition in a privately-maintained distributed hash table and the different nodes do not share respectively assigned data partitions; and

store information associated with each data partition in a blockchain maintained by the blockchain network, the information including a storage location of each data partition.

18. The system of claim 17, further configured with instructions executable by the one or more computers to:

receiving a request to retrieve the stored data item; and

in response to receiving the request to retrieve the stored data item:

retrieving each stored data partition from an assigned node based on the information including the storage location of each data partition stored in the blockchain;

reconstructing the stored data item from stored data partitions; and

sending a response to the request to retrieve the stored data item, wherein the response includes the reconstructed data item.

19. The system of claim 17, configured with instructions executable by the one or more computers to storing instructions in the blockchain for restoring the data item from stored data partitions.

20. The system of claim 18, wherein reconstructing the stored data item includes concatenating the retrieved each stored data partition to generate a copy of the data item.