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(54) Title: REFERENTIAL DATA STRUCTURES FOR AUTOMATICALLY UPDATING ASSET ATTRIBUTES IN REAL TIME
BASED ON STREAMING DATA

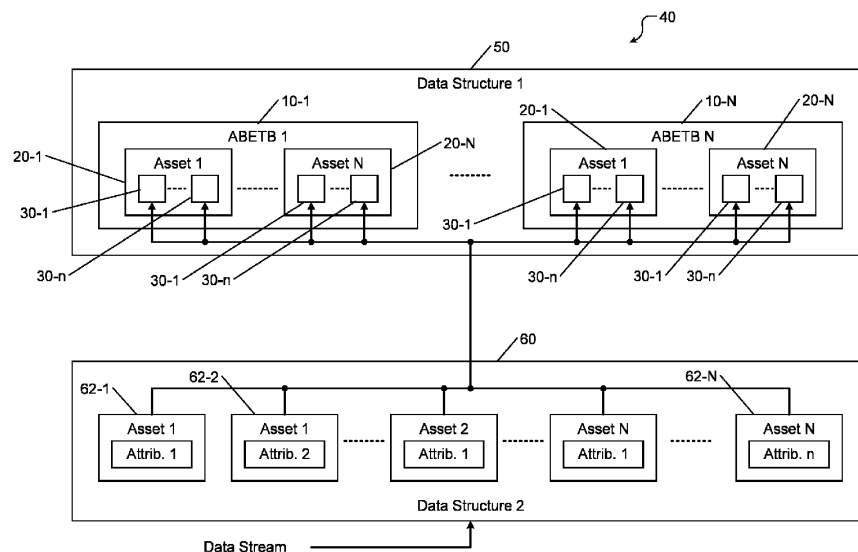


FIG. 2

(57) Abstract: A server connected to a network generates a database including a first data structure configured to store attributes of fungible assets, where the attributes determine market values of the fungible assets, and a second data structure having fields referentially related to the attributes stored in the first data structure such that a change in any field induces a change in real time in a corresponding attribute in the first data structure. The server receives a stream of data regarding the attributes of the fungible assets from the network, modifies the fields of the second data structure, and allows cycling, liquidating, and replenishing of one or more of the fungible assets while maintaining a relative value equivalence of the fungible assets. The server securely validated, verifies, records, traces, and tracks transactions for cryptocurrency specimens. The server generates tokens based on the fungible assets for trading over subnetworks and provides price discovery.

[Continued on next page]

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