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

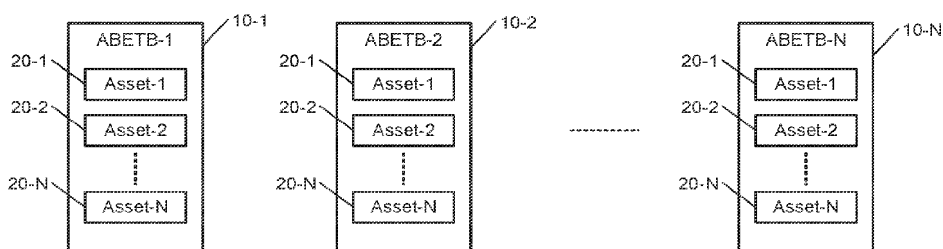


FIG. 1A

(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 one of the fields induces a change in real time in a corresponding attribute in the first data structure. The server receives a stream of data regarding one or more of the attributes of the fungible assets from the network, which modifies one or more of the fields of the second data structure, and which allows at least one of 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 validate, verify, record, trace, and track transactions for cryptocurrency specimens.

WO 2023/003618 A1