TITLE OF INVENTION: DATA READ AUTHORITY CONTROL SYSTEM BASED ON BLOCK CHAIN AND ZERO-KNOWLEDGE PROOF MECHANISM, AND RELATED DATA SERVICE SYSTEM

ABSTRACT OF DISCLOSURE

A data read authority control system (100) is disclosed, including: a block chain system (180); a data owner device (110) arranged to operably generate a target data, and to operably generate a proof using a proof key; a data source system (150) arranged to operably generate a sensitive data corresponding to the target data; a data service system (160) arranged to operably receive the target data and the proof, and to operably request the block chain system (180) to verify the proof; and a data requester device (130) arranged to operably generate and transmit a sensitive data request corresponding to the target data to the data service system (160). The block chain system (180) can execute a zero-knowledge proof (ZKP) smart contract to verify the correctness of the proof, and can transfer a read token to the data service system (160). After acquiring the read token, the data service system (160) transfers read token to the data source system (150) to request the data source system (150) to provide the sensitive data.
FIG. 1