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SYSTEMS AND METHODS FOR ENCRYPTED CONTENT MANAGEMENT

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(57) ABSTRACT

Systems and methods for encrypted content management are provided and include generating a user private key, a user public key, and a symmetric encryption key. A group private key, a group public key, and a group symmetric encryption key are generated and the group private key is encrypted with the group symmetric encryption key. A first shared-secret key is generated based on the user public key and the group private key using a diffie-hellman exchange algorithm. The group symmetric encryption key is encrypted using the first shared-secret key to generate an escrow key. Plaintext data is encrypted using a content symmetric key. A second shared-secret key is generated based on an ephemeral private key and the group public key using a diffie-hellman exchange algorithm. The content symmetric key is encrypted using the second shared-secret key.

