

# BlockProve - White Paper

## 1. Introduction

### 1.1 Context and Issues

In an increasingly digital world, preserving and authenticating proof has become crucial. Whether it is to protect personal memories, document important events, or store legal evidence, it is essential to have a secure and tamper-proof method to ensure data integrity.

Traditional storage solutions, such as cloud services or external hard drives, have several limitations:

- Risk of data loss or deletion (human error, hardware failure, hacking, cloud service shutdown).
- Possible file alteration over time, making it difficult to prove originality.
- Dependence on centralized servers, which are vulnerable to attacks and censorship.

BlockProve addresses these challenges by using the Arweave blockchain to provide a secure, immutable, and accessible storage solution without reliance on centralized entities.

### 1.2 BlockProve Objectives

In the short term, BlockProve enables users to store photos in a simple, intuitive, and secure manner while ensuring data integrity.

In the long term, BlockProve aims to become a global reference for legal digital proof, expanding into areas such as:

- Patents and intellectual property
- Contracts and legal documents
- Notarial certification via blockchain
- Integration with public and private institutions
- Blockchain-based traceability for industries
- Collaboration with government entities and private companies for official document certification



## **2. BlockProve Features**

### **2.1 Personal Memory Preservation**

**BlockProve allows users to store cherished moments directly on the blockchain, ensuring their permanence and authenticity.**

#### **Features:**

- Photo storage with metadata: geolocation, description, title, timestamp.
- Permanent archiving on the Arweave blockchain, ensuring the photo can never be modified or deleted.
- Secure access at any time, even without a centralized server.
- Proof-sharing via a unique link, allowing users to verify the originality of a memory.
- Intuitive and user-friendly interface, making usage simple and accessible.
- Advanced search mechanisms to easily retrieve stored files.
- Decentralized access, removing the need for a centralized platform to view stored **files**.

#### **Use Cases:**

- Preserve cherished memories: family photos, travel experiences, significant moments.
- Create a digital time capsule with protected images for future generations.
- Store important documents securely, such as personal journals, notes, or property certificates.
- Share protected memories without the risk of tampering.



## **2.2 Visual Evidence and Legal Documents**

**Beyond personal memories, BlockProve provides a solution for storing visual evidence in a formal context.**

### **Features:**

- Secure deposit of photos with detailed information.
- Direct and tamper-proof access to stored data.
- Traceability and verifiability via the blockchain.
- Cryptographic signature authentication to ensure document origin.
- Potential integration with legal and administrative services.
- Long-term legal preservation, allowing use in court proceedings or administrative processes.

### **Use Cases:**

- Property Condition Reports: providing proof before/after a rental.
- Road Accidents: ensuring immutable images of damages.
- Neighborhood Disputes: documenting noise or visual nuisances.
- Copyright Protection: proving intellectual property ownership at a specific date.



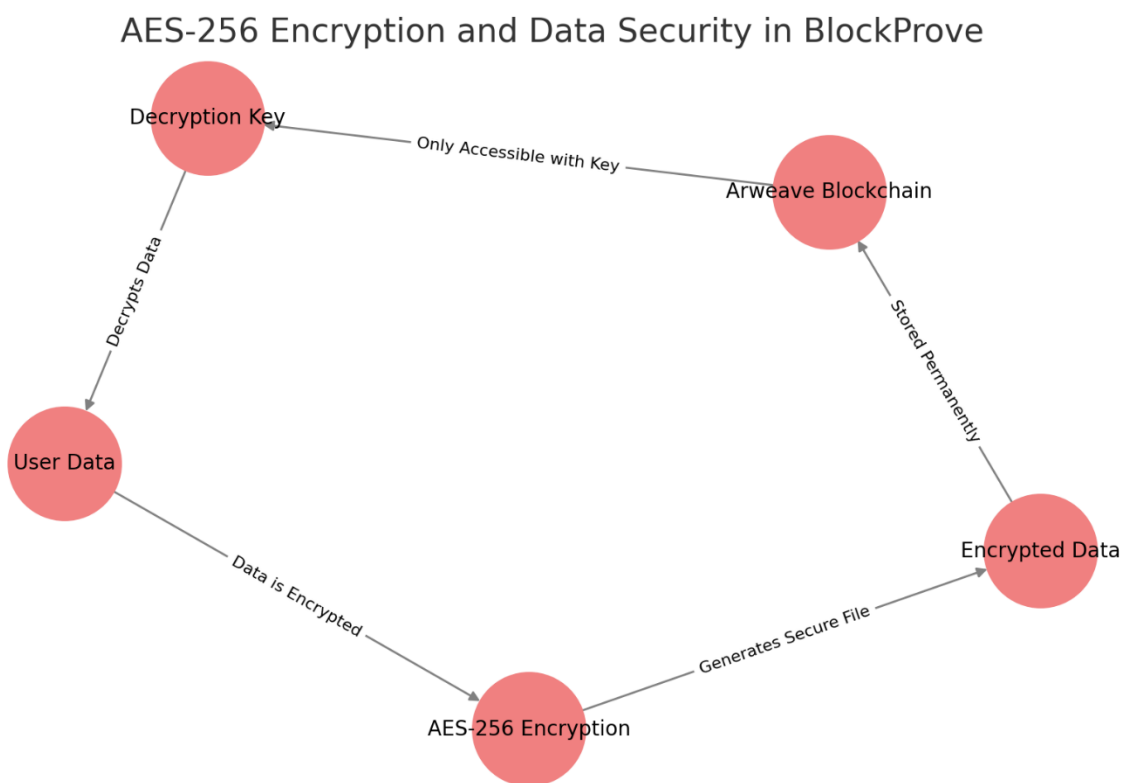
## 2.3 Security and AES-256 Encryption

**What is AES-256 Encryption?** The Advanced Encryption Standard (AES-256) is a symmetric encryption algorithm considered one of the most secure in the world. It uses a 256-bit key, making brute-force decryption virtually impossible.

### Why AES-256 for BlockProve?

- Maximum security: Protects stored files against modification or unauthorized access.
- Compliance with industry standards: Used by governments, banks, and cybersecurity firms.
- Resistant to known attacks: No effective attacks have been found against AES-256 to date.

**Diagram illustrating the security and AES-256 encryption process in BlockProve :**



1 User data (e.g. photos) is encrypted with AES-256.

2 A secure file is generated, preventing unauthorized access or modification.

3 The encrypted file is permanently stored on the Arweave blockchain.

4 Data can only be accessed with the decryption key.

5 When a user wishes to retrieve his data, he uses his key to decrypt the content and restore it.

This diagram highlights the security and integrity of data stored on BlockProve.



## **2.4 Use of the Arweave Blockchain**

**The Arweave blockchain is designed for permanent data storage, offering a unique economic model that requires a one-time payment for lifetime storage.**

### **Advantages for BlockProve:**

- Permanent storage: No need for renewal or subscription payments.
- High reliability: Resistant to failures and globally accessible.
- Privacy protection: Files are encrypted before storage.

## **3. BPV Token and Project Economy**

### **3.1 Token Details**

- Token Name: BlockProve Token
- Symbol: BPV
- Blockchain: Solana
- Solana Contract Address: **4LqSKSyt9MH1n854ehdv3KM9R3dwxEqGBdznxEn4cHdy**
- Total Supply: 10 million BPV (no further issuance possible)
- Initial Value: 1 BPV = 0.005 SOL

### **3.2 Advantages of an SPL Token on Solana**

**The choice of Solana as the blockchain offers several key advantages:**

- Extremely low transaction fees, making storage affordable.
- Ultra-fast transactions (~400ms per transaction) ensuring instant access to stored data.
- High scalability, supporting a large number of simultaneous users.



### **3.3 Service Cost Adjustments**

Since BPV is a tradable token on the markets, its price will fluctuate. To ensure stable service costs, BPV fees will be adjusted regularly based on the token's market value.

### **4. Conclusion**

BlockProve aims to revolutionize digital proof storage with a secure, immutable, and universally accessible system.