

DATA ENCRYPTION METHOD PATENT DOCUMENTATION

Patent No.: US 10,847,XXX

Filing Date: March 15, 2019

Issue Date: November 24, 2020

1. PATENT OVERVIEW

1. This documentation describes the proprietary data encryption method developed by Summit Digital Solutions, Inc. ("Summit") and protected under United States Patent No. 10,847,XXX (the "Patent"), relating to secure data transmission within IoT networks utilizing dynamic key generation protocols.
2. The Patent encompasses the encryption methodology integrated into Summit's Peak Performance Platform, specifically covering the secure transmission protocol stack implemented across distributed IoT sensor networks.

2. TECHNICAL SPECIFICATIONS

1. The patented encryption method comprises:
 - (a) Dynamic key generation utilizing environmental entropy sources;
 - (b) Multi-layer encryption protocol implementing AES-256 with proprietary key rotation;
 - (c) Quantum-resistant algorithmic structures;
 - (d) Real-time encryption key distribution across IoT mesh networks;
 - (e) Automated fault detection and key regeneration protocols.
2. The method specifically addresses secure data transmission across:
 - Industrial IoT sensor networks
 - Edge computing devices
 - Cloud-based analytics platforms
 - Enterprise data lakes
 - Real-time monitoring systems

3. PATENT CLAIMS

1. Primary Independent Claims:

Claim 1: A method for secure data transmission in distributed IoT networks comprising:

- (a) Environmental entropy collection from connected devices
- (b) Dynamic encryption key generation using collected entropy
- (c) Secure key distribution across mesh networks
- (d) Real-time data encryption/decryption
- (e) Automated key rotation and regeneration

Claim 2: A system implementing the method of Claim 1, comprising:

- (a) Distributed IoT sensors
- (b) Edge processing units
- (c) Central key management server
- (d) Encryption processing modules
- (e) Key distribution network

2. Dependent Claims: Claims 3-15 further specify implementation details, network configurations, and specific use cases.

4. OWNERSHIP AND RIGHTS

1. Summit Digital Solutions, Inc. maintains full ownership of the Patent and all associated intellectual property rights.

2. The following inventors are listed on the Patent:

- Dr. Michael Chang, CTO
- Dr. Robert Martinez, Chief Innovation Officer
- Dr. Sarah Chen, Principal Security Architect
- Mr. James Henderson, Chief Digital Officer

3. All inventors have executed proper assignment agreements transferring all rights to Summit Digital Solutions, Inc.

5. LICENSING AND USAGE

1. The Patent is currently utilized exclusively by Summit in its Peak Performance Platform and

related offerings.

2. No external licenses have been granted as of the date of this documentation.

3. Summit maintains the right to license the technology to third parties under terms to be determined at its sole discretion.

6. MAINTENANCE AND RENEWAL

1. Patent maintenance fees are due:

- 3.5 years from issue: November 24, 2023
- 7.5 years from issue: November 24, 2027
- 11.5 years from issue: November 24, 2031

2. Summit's intellectual property counsel maintains a comprehensive docketing system for all maintenance deadlines.

7. RELATED APPLICATIONS

1. Continuation Applications:

- Application No. 17/XXX,XXX filed June 15, 2021
- Application No. 17/XXX,XXX filed September 30, 2021

2. International Patent Applications:

- PCT/US2020/XXXXXX
- EP20XXXXXXX.X
- JP2020-XXXXXXX

8. CERTIFICATION

The undersigned hereby certifies that this documentation accurately reflects the current status of US Patent No. 10,847,XXX as of January 9, 2024.

/s/ Sarah Blackwell

Sarah Blackwell

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9. CONFIDENTIALITY NOTICE

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