



AES Encryption

For applications that handle sensitive data or require increased data security, Transcend Information offers hardware-based AES encryption on several SSD models in the 2.5", M.2, and mSATA form factors.



What is AES?

Defined by the National Institute of Standards and Technology (NIST) under the Federal Information Processing Standards Publication 197 (FIPS PUB 197), the Advanced Encryption Standard (AES) specifies a FIPS-approved cryptographic algorithm that can be used to protect electronic data.

The AES algorithm is a symmetric block cipher that can encrypt and decrypt data. As shown in Figure 1, encryption converts data (plain-text) to an unintelligible form called cipher-text, while decryption converts this cipher-text back to the original plain-text. Cryptographic keys of 128, 192, or 256 bits may be used by the AES algorithm to encrypt and decrypt data in blocks of 128 bits.

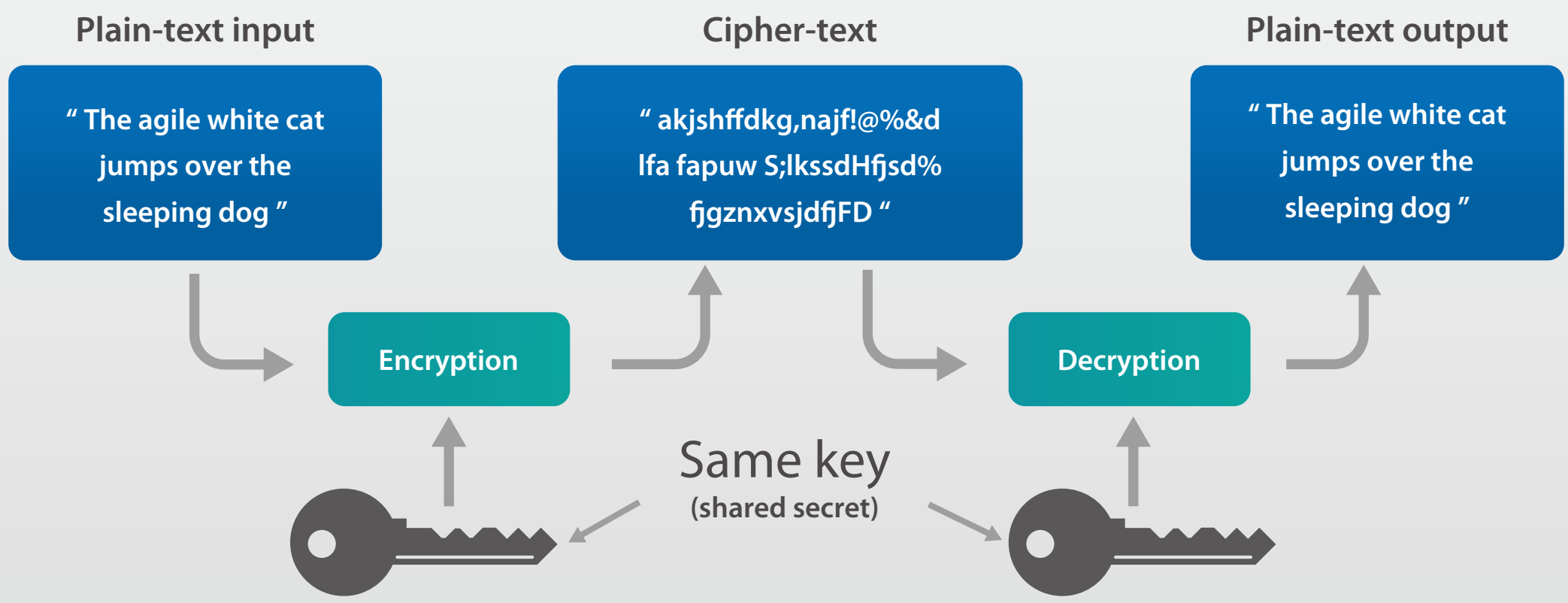


Figure 1: Symmetric Block Cipher

Transcend's Hardware-Based AES Solution

Transcend Information's SSDs equipped with hardware-based AES encryption offer superior data protection and performance compared to competing offerings that utilise software-based or firmware-based encryption. With hardware-based encryption, all data is encrypted before being stored in NAND Flash (See Figure 2). After the encrypted data has been written into the flash, it becomes virtually impossible to decrypt the data without the original key.

Performance is also improved compared to software-based solutions, since hardware-based encryption does not require system resources to perform the encryption/decryption process.

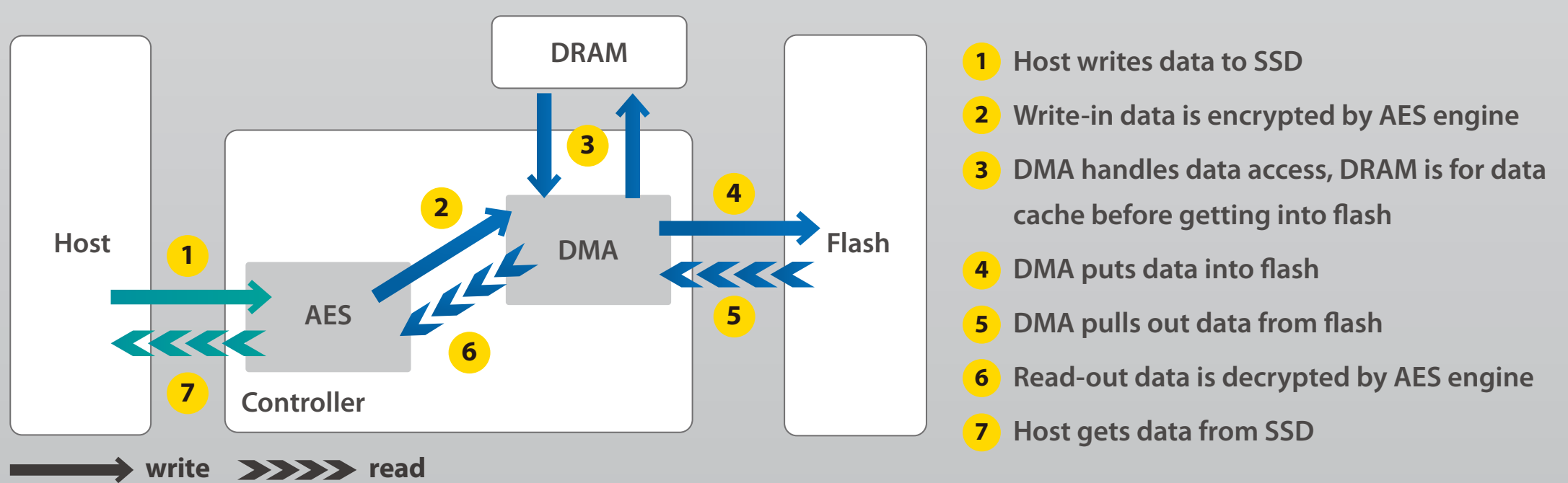


Figure 2: Transcend Information's Hardware-Based AES Solution

Transcend Information offers a variety of SSDs equipped with hardware-based AES encryption for applications that handle sensitive data or require increased data security. From securing personal data, such as credit card information or medical records, to protecting sensitive corporate information, Transcend Information's SSDs with hardware-based AES encryption offer a complete data security solution.

Visit our website to find out more about our Embedded Product Range