

	Stream Cipher	Block Cipher
Approach	Encrypt one symbol of plaintext directly into a symbol of ciphertext	Encrypt a group of plaintext symbols as one block
Pro	Fast	High diffusion
Cons	Low diffusion	Slow

Stream cipher and block cipher are often used together

- Stream cipher for encrypting large volume of data
- Block cipher for encrypting fresh pseudo-random seeds

Latest Trends

RC4 has shown serious weaknesses since 2015

AES is now hardware accelerated (AES-NI native instruction)

➡ AES-CTR is fast enough (~ 1.3 cycles per byte)
to be used as a stream cipher

<https://www.cryptopp.com/benchmarks.html>