Cryptographic Algorithm Comparison

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| Algorithm | Key Size (bits) | Average Encryption Time (ms) | Average Decryption Time (ms) | Security Level | Usage Recommendations | Algorithm Type | Common Use Cases | Speed Rating | Key Lifetime |
| AES | 256 | 2.0 | 1.9 | High | Suitable for most applications. | Symmetric | Data encryption | Fast | Medium-term |
| ECC | P-256 | 4.2 | 4.0 | High | For secure key exchanges. | Asymmetric | Key exchange, Digital signatures | Moderate | Long-term |
| RSA | 2048 | 5.5 | 5.3 | High | For digital signatures and encryption. | Asymmetric | Digital signatures, Encryption | Slow | Long-term |
| Blowfish | 128 | 1.8 | 1.7 | Medium | Legacy systems. | Symmetric | Data encryption | Fast | Short-term |
| DSA | 1024 | 4.8 | 4.6 | Medium | For digital signatures only. | Asymmetric | Digital signatures | Moderate | Medium-term |