

Encryption Algorithms:

For 10 KB file,

Algorithm	Key Generation (ns)	Encryption (ns)	Decryption (ns)	Encryption Per Byte Speed (ns)	Decryption Per Byte Speed (ns)
AES CBC	141661598	89783	32323	87.6787109375	31.5654296875
AES CTR	290651	171361	30429	167.3447265625	29.7158203125
AES CTR 256	253089	81978	32502	80.056640625	31.740234375
RSA 2048	33743254	1053883	9440313	1029.1826171875	9219.0556640625
RSA 3072	176377178	1422206	42841736	1388.873046875	41837.6328125

For 10 MB/ 1 MB,

Algorithm	Key Generation (ns)	Encryption (ns)	Decryption (ns)	Encryption Per Byte Speed (ns)	Decryption Per Byte Speed (ns)
AES CBC	159718	35940877	14465946	3.4275891304016115	1.3795801162719727
AES CTR	150190	22802306	14940426	2.1745973587036134	1.4248300552368165
AES CTR 256	161882	26109759	15797309	2.4900206565856933	1.50654878616333
RSA 2048	45117361	866620063	10416669120	826.4732961654663	9934.109802246094
RSA 3072	399231467	1405755770	43782710493	1340.6331729888916	41754.446499824524

For Hashing,

Algorithm	Small File		Large File	
	Hashing Speed	Hashing Per Byte Speed	Hashing Speed	Hashing Per Byte Speed
SHA-256	7428722	7254.611328125	43932546	4.189734077453613
SHA-512	139152	135.890625	36302053	3.4620335578918455
SHA3-256	296106	289.166015625	44535284	4.247215652465821

DSA signing and verification:

For small file,

Algorithm	Key Generation (ns)	Singing Time (ns)	Verification Time (ns)	Signing Speed Per Byte (ns)	Verification Speed Per Byte (ns)
DSA 2048	411321223	1798164	1108865	1756.01953125	1082.8759765625
DSA 3072	7526615992	2769166	2328887	2704.263671875	2274.3037109375

For large file,

Algorithm	Key Generation (ns)	Singing Time (ns)	Verification Time (ns)	Signing Speed Per Byte (ns)	Verification Speed Per Byte (ns)
DSA 2048	474556641	44984555	44293675	4.2900614738464355	4.2241740226745605
DSA 3072	1232747451	45390792	45687063	4.328803253173828	4.357057857513428