

# An Efficient Parallel Algorithm for Secured Data Communications Using RSA Public Key Cryptography Method

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Algoritmos Paralelos

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Message Size	Segment Type	1 core	2 cores	4 cores	8 cores	Speedup
<b>1000</b>	Encryption Time	0.46757464	0.24420352	0.1278022	0.1122454	4.17x
	Decryption Time	0.46962944	0.2443334	0.13012468	0.11307884	4.15x
	Overall Time	0.94608372	0.49687084	0.26618736	0.23471736	4.03x
<b>2000</b>	Encryption Time	0.93499464	0.47531964	0.25300544	0.22485532	4.16x
	Decryption Time	0.9367404	0.47633848	0.25627944	0.22439264	4.18x
	Overall Time	1.88104592	0.96081168	0.51940344	0.45735516	4.11x
<b>3000</b>	Encryption Time	1.41060228	0.7255222	0.38410404	0.3369	4.19x
	Decryption Time	1.4089258	0.72689044	0.38451772	0.33783732	4.17x
	Overall Time	2.83086976	1.46097024	0.77717956	0.68406344	4.14x
<b>4000</b>	Encryption Time	1.87498956	0.98255104	0.52236468	0.44708772	4.19x
	Decryption Time	1.87756324	0.9866046	0.52224776	0.45145868	4.16x
	Overall Time	3.76213744	1.97925	1.05276452	0.9076462	4.15x
<b>5000</b>	Encryption Time	2.34797976	1.21547488	0.63996784	0.55835468	4.21x
	Decryption Time	2.35117576	1.22052832	0.6975152	0.559929	4.20x
	Overall Time	4.70871276	2.4440092	1.34563036	1.12672756	4.18x
<b>6000</b>	Encryption Time	2.8022342	1.47444388	0.7817876	0.66855896	4.19x
	Decryption Time	2.8096998	1.47175488	0.77560952	0.67615184	4.16x
	Overall Time	5.6216748	2.95597272	1.56562592	1.35219584	4.16x

Key Size	Segment Type	1 core	2 cores	4 cores	8 cores	Speedup
<b>128</b>	Encryption Time	0.01744412	0.00771176	0.00495088	0.00477248	3.66x
	Decryption Time	0.01446656	0.00718892	0.0047454	0.00479988	3.01x
	Overall Time	0.03349776	0.01610124	0.01075044	0.01062064	3.15x
<b>256</b>	Encryption Time	0.05685824	0.02920536	0.01735212	0.0162128	3.51x
	Decryption Time	0.0531176	0.02808028	0.0175166	0.0163878	3.24x
	Overall Time	0.11153568	0.05862836	0.036021	0.0337508	3.31x
<b>512</b>	Encryption Time	0.32565408	0.09876696	0.096369	0.06402796	5.09x
	Decryption Time	0.32293712	0.11303592	0.09683764	0.08386048	3.85x
	Overall Time	0.65054268	0.2137714	0.19513912	0.1497552	4.34x
<b>768</b>	Encryption Time	1.0516946	0.53718348	0.2941692	0.26068648	4.03x
	Decryption Time	1.05282916	0.54098404	0.3156102	0.26486876	3.98x
	Overall Time	2.10927176	1.08250296	0.61428724	0.52960552	3.98x
<b>1024</b>	Encryption Time	2.3437544	1.2055034	0.65111192	0.56111836	4.18x
	Decryption Time	2.33940148	1.20698612	0.66276608	0.56557168	4.14x
	Overall Time	4.69310056	2.42224044	1.32380848	1.13549232	4.13x
<b>2048</b>	Encryption Time	16.83832248	8.66942184	5.45345	3.79430744	4.44x
	Decryption Time	16.83518192	7.98278924	5.39046672	3.79369864	4.44x
	Overall Time	33.75374976	16.74329772	10.916207	7.66389472	4.40x