

DES Key Search on the ALiCE Grid

Key (bits)	Intel P2 400MHz, 256MB RAM		Intel Xeon 1.4GHz, 1GB RAM	
	actual	estimated	actual	estimated
24	1 min	1 min	1 min	1 min
28	29 min	29 min	18 min	18 min
32	7 hr 55 min	7 hr 57 min	4 hr 52 min	4 hr 57 min
36	-	6 days	-	3.5 days
40	-	5 yrs	-	3 yrs
56	-	328,690 yrs	-	201,396 yrs

Sequential Execution Time

No. of Nodes	Heterogeneous P2/P3 Cluster	Homogeneous Xeon Cluster
	32-bit Key	36-bit Key
Est. Sequential	7.9	78.4
4	3.7	23.6
8	2.1	11.1
10	1.7	8.6
12	1.4	7.4
16	1.1	5.2
32	-	2.5

Execution Time in Hours

32-bit key - 86 tasks

36-bit key - 1374 tasks

Task size - 50m keys/task