

Distributed Systems

Bitonic Sort Results(Sec)

Processors	16M	32M	64M	128M
1	10.0583	21.3118	43.9281	89.4299
2	5.63218	12.3000	29.4444	57.8362
4	5.72584	11.8778	28.2459	49.5130
8	8.31883	21.7694	47.6670	85.6007

Local Sort :- $O((n/p)\log(n/p))$.

Communication Cost :- $O((n/p)\log^2(p))$.

Total Complexity :- $O((n/p)\log^2(p))$.

Odd-even Sort Result (Sec)

Processors	16M	32M	64M	128M
1	10.6927	22.8580	44.9341	93.6969
2	6.38509	12.3027	26.9530	80.9926
4	7.45613	14.4458	29.9036	56.8753
8	10.3534	19.7434	51.0014	89.4497

Local Sort :- $O((n/p)\log(n/p))$.

Communication Cost :- $O(n)$.

Total Complexity :- $O((n/p)\log(n/p) + n)$.