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I got the speedup result as the same as I image. But the speed up is not always booting as the server has limited cores. So I cannot run much faster than 4.0 as my server only have four cores. The device can only handle 4 threads once time.

Test file: medium.txt			
# threads	#Observed timing	Observer speed up compared	Expected speed up
Original program	51.552	1.0	1.0
1	53.140	1.0	1.0
2	26.598	2.0	2.0
3	17.757	3.0	3.0
4	13.442	4.0	4.0
8	13.269	4.0	8.0
16	13.285	4.0	16.0

Test file: hard.txt			
# threads	#Observed timing	Observer speed up compared	Expected speed up
Original program	17.427	1.0	1.0
1	18.085	1.0	1.0
2	9.052	2.0	2.0
3	6.045	3.0	3.0
4	4.543	4.0	4.0
8	4.643	4.0	8.0
16	4.533	4.0	16.0

Test file: hard2.txt			
# threads	#Observed timing	Observer speed up compared	Expected speed up
Original program	17.544	1.0	1.0
1	18.077	1.0	1.0
2	9.043	2.0	2.0
3	6.034	3.0	3.0
4	4.538	4.0	4.0
8	4.449	4.0	8.0
16	4.41	4.0	16.0