#### All runs were done on node 56

### 10k no optimization

iteration	t_reading	t_multiplicati on	t_writing	t_total	date	Starting time
1	1191	31061987	7407	31070582	18.03	22:00
2	1271	31033964	7341	31042577	19.03	17:40
3	1148	29303375	7434	29311958	19.03	After 2nd iter

### 10k O1 optimization

iteration	t_readin g	t_multiplication	t_writing	t_total	date	Starting time
1	1139	8435599	7345	8444085	20.03	11:00
2	1150	8481244	7404	8489799	20.03	After 1st iter
3	1154	8507513	7385	8516053	20.03	After 2nd iter

### 10k O2 optimization

iteration	t_reading	t_multiplication	t_writing	t_total	date	Starting time
1	1248	4952414	7501	4961164	19.03	12:40
2	1282	4891929	7498	4900710	19.03	14:54
3	1237	4849084	7430	4857751	19.03	After 2nd iter

### 10k O3 optimization

iteration	t_reading	t_multiplication	t_writing	t_total	date	Starting time
1	1278	4969136	7498	4977913	19.03	8:27
2	1294	4830631	7425	4839351	19.03	After 1st iter
3	1255	4927649	7507	4936412	19.03	After 2nd iter

# 1k no optimization

iteratio n	t_reading	t_multiplication	t_writing	t_total	date	Starting time
1	17	23906	77	24001	20.03	18:05
2	15	18763	81	18860	20.03	After 1st iter
3	15	24371	80	24467	20.03	After 2nd iter
4	14	18844	80	18939	20.03	After 3rd iter
5	14	24720	80	24815	20.03	After 4th iter
6	14	18863	80	18958	20.03	After 5th iter
7	15	24897	80	24992	20.03	After 6th iter
8	15	18869	80	18965	20.03	After 7th iter
9	15	25165	80	25261	20.03	After 8th iter
10	14	18747	80	18842	20.03	After 9th iter

# 1k O1 optimization

iteratio n	t_reading	t_multiplication	t_writing	t_total	date	Starting time
1	16	6796	77	6891	20.03	18:09
2	14	3941	80	4036	20.03	After 1st iter
3	15	6824	79	6919	20.03	After 2nd iter
4	14	3893	79	3986	20.03	After 3rd iter
5	15	6883	80	6979	20.03	After 4th iter
6	14	3912	81	4007	20.03	After 5th iter
7	15	6787	80	6882	20.03	After 6th iter
8	14	4037	81	4132	20.03	After 7th iter
9	15	6843	79	6938	20.03	After 8th iter
10	13	3915	81	4010	20.03	After 9th iter

iteratio n	t_reading	t_multiplication	t_writing	t_total	date	Starting time
1	16	3519	78	3613	20.03	18:10
2	14	3291	80	3385	20.03	After 1st iter
3	15	3522	80	3617	20.03	After 2nd iter
4	14	3268	80	3363	20.03	After 3rd iter
5	15	3545	80	3640	20.03	After 4th iter
6	14	3270	80	3364	20.03	After 5th iter
7	13	3497	80	3591	20.03	After 6th iter
8	14	3287	80	3381	20.03	After 7th iter
9	15	3541	80	3636	20.03	After 8th iter
10	14	3285	81	3380	20.03	After 9th iter

# 1k O3 optimization

iteratio n	t_reading	t_multiplication	t_writing	t_total	date	Starting time
1	15	3599	77	3692	20.03	18:12
2	14	3266	80	3360	20.03	After 1st iter
3	15	3593	80	3688	20.03	After 2nd iter
4	14	3274	80	3369	20.03	After 3rd iter
5	15	3640	79	3735	20.03	After 4th iter
6	14	3281	81	3376	20.03	After 5th iter
7	15	3551	79	3646	20.03	After 6th iter
8	14	3291	80	3386	20.03	After 7th iter
9	15	3572	80	3668	20.03	After 8th iter
10	14	3284	81	3380	20.03	After 9th iter