Performance Analysis

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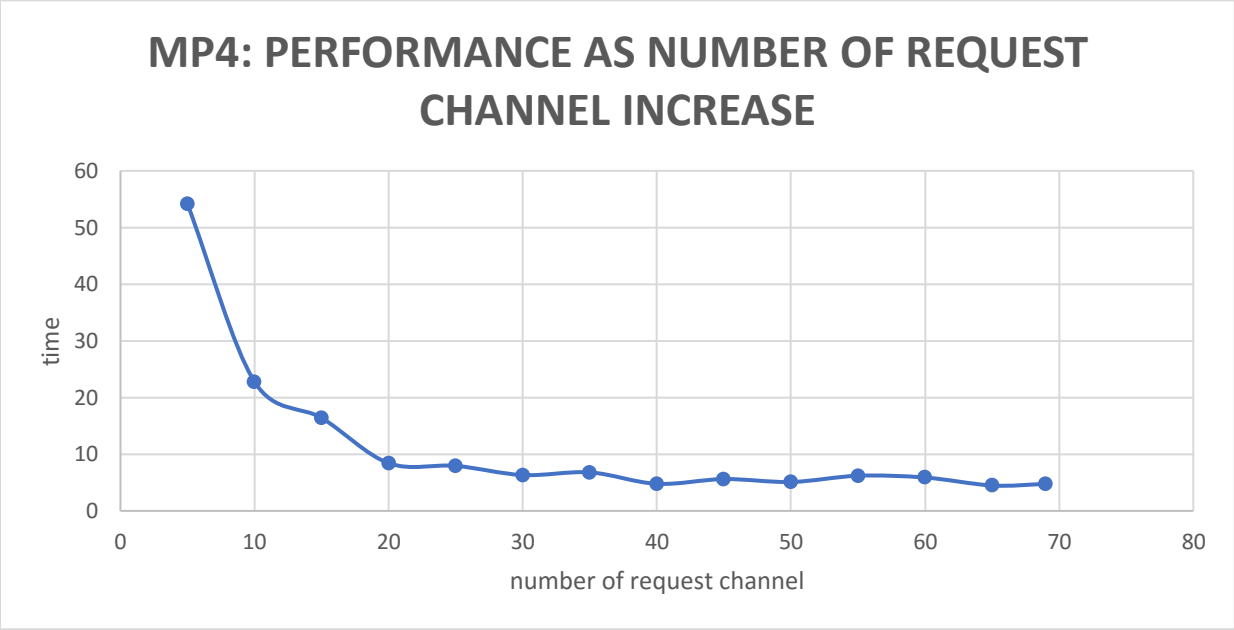
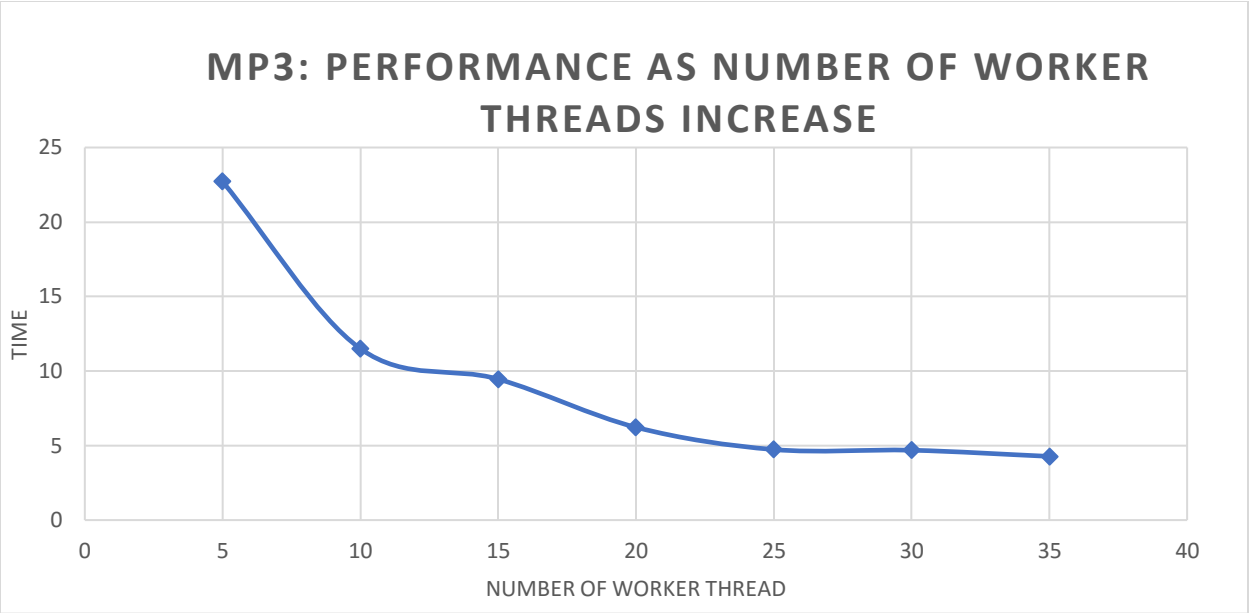
Increasing the number of request channel:

number of request per client	number of request channel	buffer size	time(sec)	time(musec)	sec
10000	5	30	54	139410	54.13941
10000	10	30	23	-222941	22.777059
10000	15	30	17	-588655	16.411345
10000	20	30	8	417433	8.417433
10000	25	30	8	-51786	7.948214
10000	30	30	6	325590	6.32559
10000	35	30	6	792173	6.792173
10000	40	30	5	-220266	4.779734
10000	45	30	5	616310	5.61631
10000	50	30	5	99893	5.099893
10000	55	30	6	200147	6.200147
10000	60	30	6	-111021	5.888979
10000	65	30	5	-520374	4.479626
10000	69	30	5	-243929	4.756071



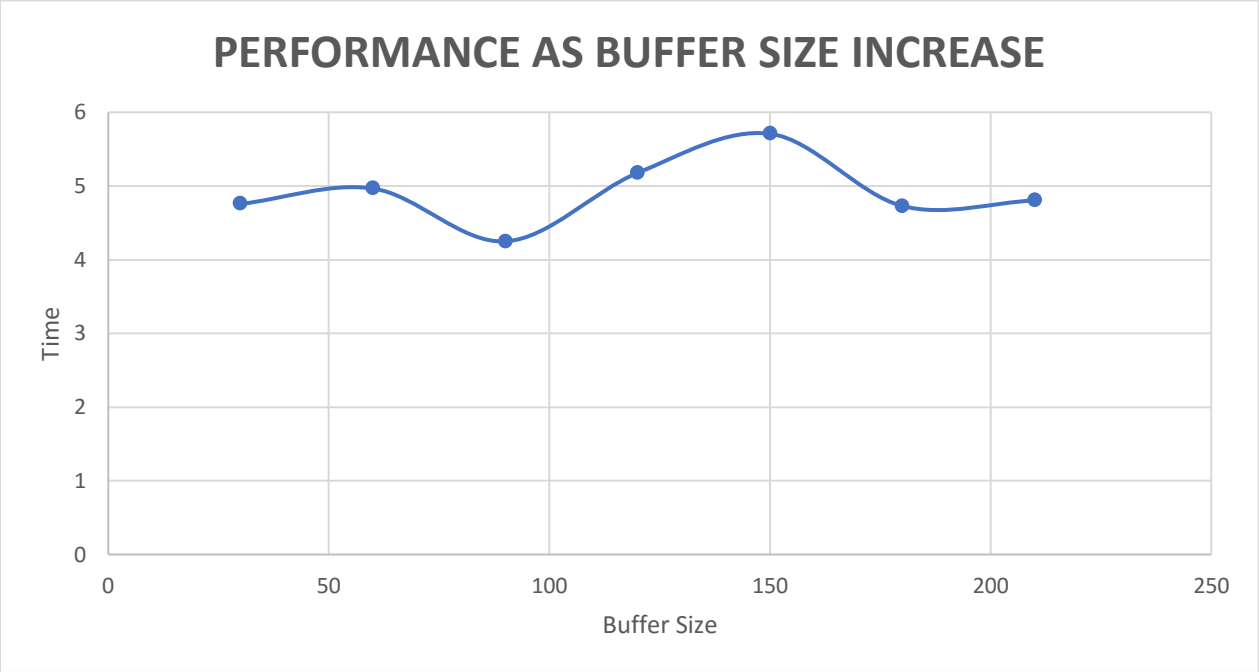
Increasing the number of request channel improve the performance. Before the performance reached the limit, double the number of request channels will double the performance. Depends on the operating system architecture, the performance reached a limit at about 20 request channels.



Compare to MP3, when the number of worker thread equals to the number of request channel, the performance of MP4 is worse until the performance reached the limit.
Compare to MP3, MP4 can support more request channel than the number of worker threads MP3 can support.
Compare to MP3, the performance of MP4 increase faster.

Increasing the buffer size:

number of request per client	number of request channel	buffer size	time(sec)	time(musec)	sec
10000	69	30	5	-243929	4.756071
10000	69	60	5	-33901	4.966099
10000	69	90	4	248475	4.248475
10000	69	120	5	178188	5.178188
10000	69	150	6	-291443	5.708557
10000	69	180	5	-271478	4.728522
10000	69	210	5	-195885	4.804115



Increasing the buffer size has no influence on performance.

Histogram

histogram	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Joe Smith	1007	975	1019	974	986	1024	977	1011	1023	1004
Jane Smith	1021	1005	1842	972	998	971	998	1015	989	989
John Smith	1007	982	1017	1012	980	985	977	991	1047	1002