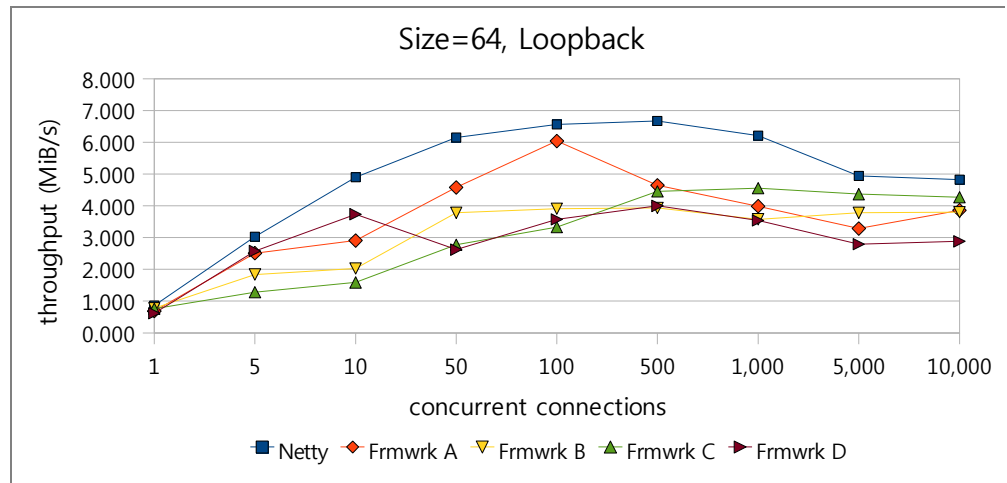


# Performance Comparison between NIO Frameworks

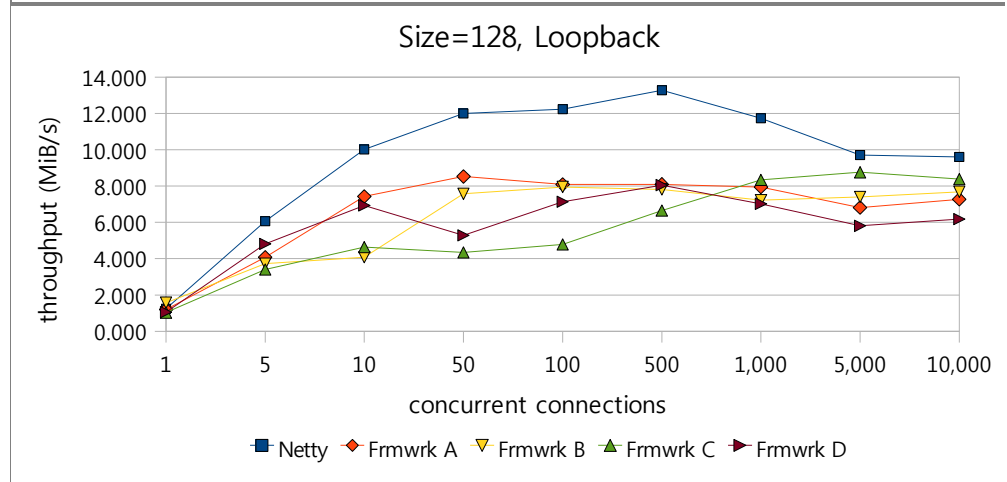
## Size=64 Loopback

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	0.858	0.689	0.779	0.760	0.617
5	3.032	2.511	1.839	1.281	2.576
10	4.902	2.909	2.027	1.590	3.735
50	6.152	4.581	3.782	2.777	2.623
100	6.562	6.042	3.910	3.331	3.574
500	6.668	4.648	3.936	4.454	4.001
1,000	6.212	3.987	3.577	4.555	3.539
5,000	4.945	3.285	3.782	4.369	2.793
10,000	4.828	3.859	3.802	4.271	2.882



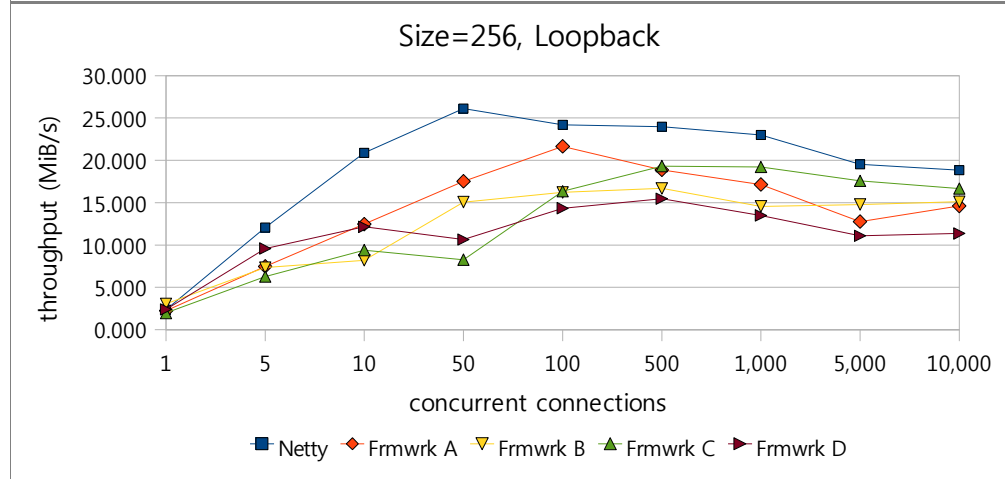
## Size=128 Loopback

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	1.245	1.198	1.569	1.031	1.054
5	6.065	4.079	3.717	3.402	4.810
10	10.023	7.428	4.081	4.637	6.936
50	12.008	8.528	7.573	4.345	5.287
100	12.232	8.091	7.948	4.780	7.134
500	13.274	8.097	7.819	6.648	8.050
1,000	11.741	7.948	7.223	8.342	7.022
5,000	9.706	6.814	7.397	8.759	5.807
10,000	9.605	7.267	7.685	8.384	6.181



## Size=256 Loopback

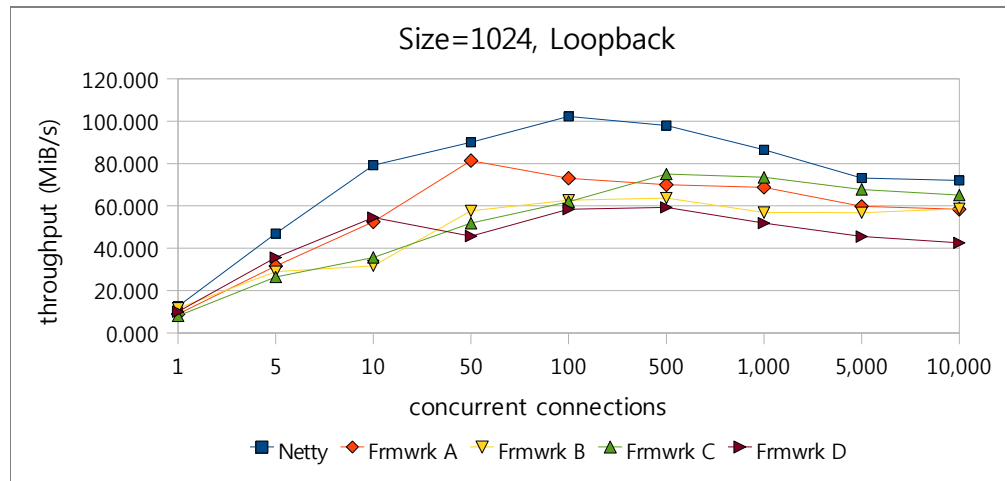
	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	2.379	2.252	3.058	1.973	2.393
5	12.084	7.483	7.329	6.279	9.591
10	20.879	12.466	8.206	9.403	12.157
50	26.110	17.527	15.072	8.271	10.647
100	24.205	21.642	16.213	16.345	14.351
500	23.976	18.876	16.686	19.319	15.465
1,000	23.003	17.142	14.565	19.212	13.490
5,000	19.516	12.760	14.786	17.571	11.090
10,000	18.827	14.612	15.110	16.667	11.354



## Performance Comparison between NIO Frameworks

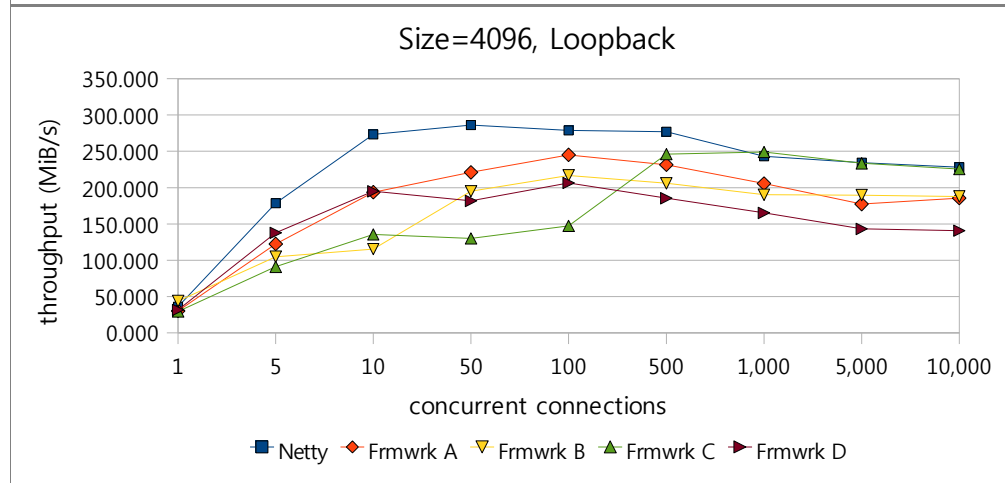
### Size=1024 Loopback

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	12.533	8.907	11.650	8.009	10.003
5	46.976	31.581	28.928	26.398	35.625
10	79.200	52.434	31.697	35.661	54.518
50	89.942	81.357	57.609	51.790	45.706
100	102.249	73.049	62.634	61.978	58.433
500	97.917	69.956	63.692	75.009	59.255
1,000	86.449	68.738	56.809	73.469	51.848
5,000	73.138	59.755	56.746	67.758	45.521
10,000	71.959	58.381	58.633	65.062	42.542



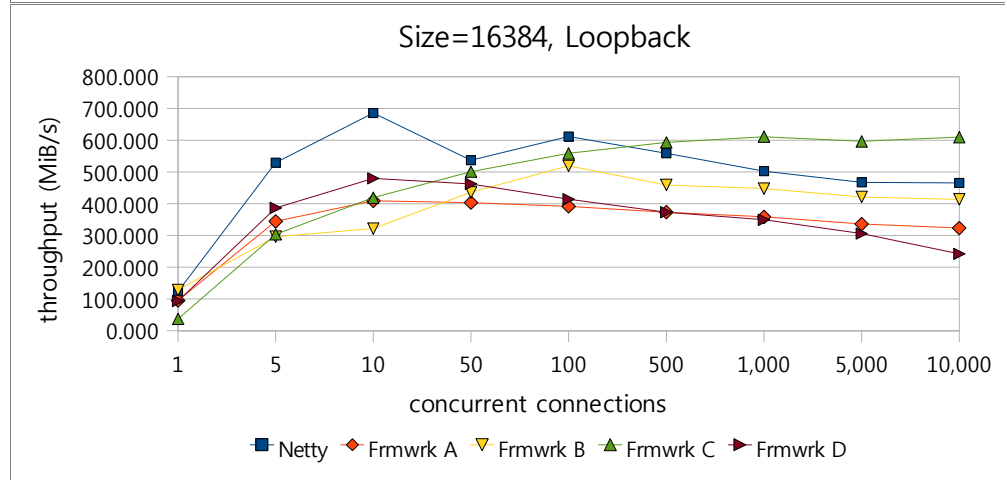
### Size=4096 Loopback

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	35.860	30.070	43.774	29.469	31.548
5	178.426	122.455	104.751	90.888	137.678
10	273.148	193.684	115.408	135.541	194.988
50	286.149	221.100	195.027	129.972	181.746
100	278.695	245.020	216.805	147.225	206.550
500	277.012	231.556	205.884	246.247	185.378
1,000	243.042	205.668	190.194	249.033	165.155
5,000	234.237	177.239	189.605	233.458	143.037
10,000	227.929	185.555	187.867	225.579	140.584



### Size=16384 Loopback

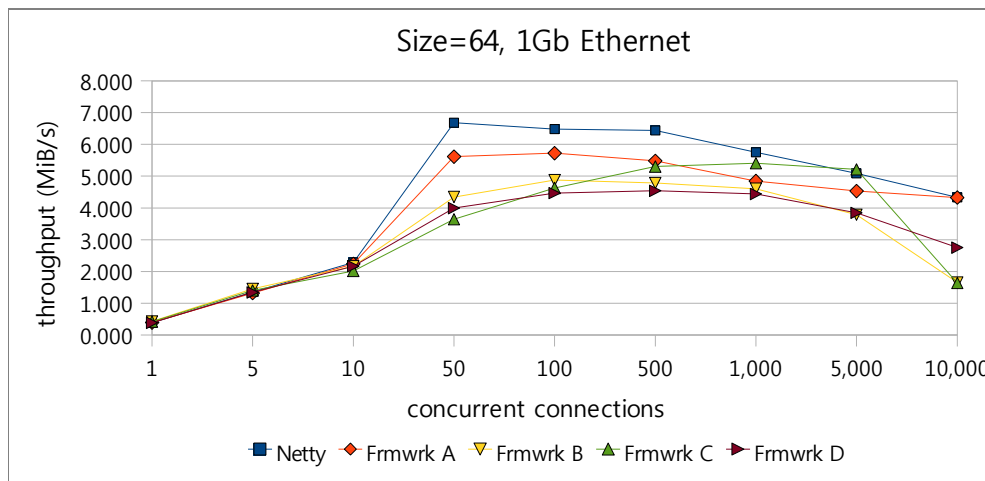
	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	123.582	95.325	128.436	37.308	93.538
5	529.157	344.316	296.149	303.426	386.741
10	685.574	409.042	321.463	418.877	479.548
50	537.192	403.711	435.932	500.665	462.550
100	611.927	391.682	519.342	558.571	413.884
500	558.475	373.215	459.249	593.008	373.304
1,000	502.541	358.618	447.478	611.165	349.118
5,000	467.571	335.850	421.408	596.318	305.868
10,000	465.943	323.224	413.699	609.571	242.030



Performance Comparison between NIO Frameworks

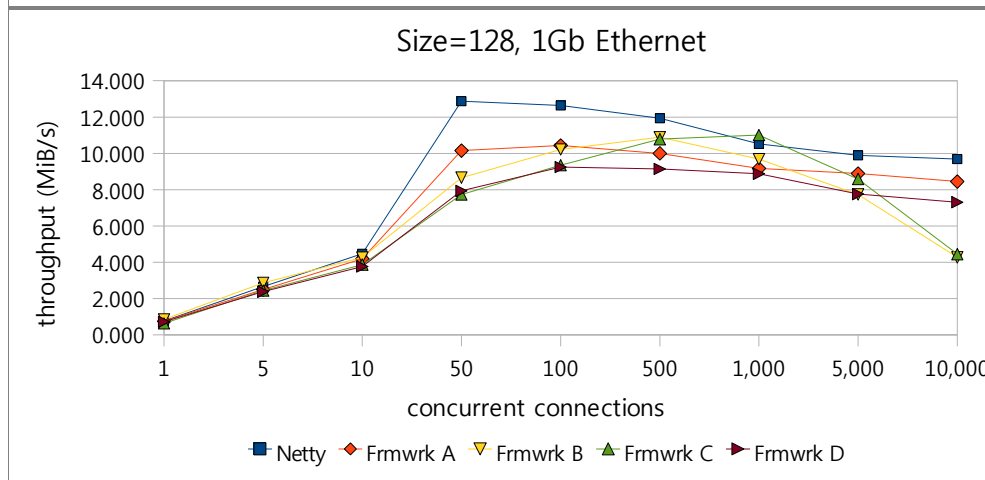
Size=64 1Gb Ethernet

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	0.390	0.391	0.426	0.418	0.382
5	1.353	1.321	1.450	1.400	1.339
10	2.278	2.238	2.163	2.017	2.168
50	6.685	5.617	4.342	3.646	3.992
100	6.484	5.724	4.873	4.629	4.467
500	6.440	5.478	4.786	5.301	4.538
1,000	5.748	4.845	4.605	5.406	4.438
5,000	5.086	4.533	3.786	5.213	3.844
10,000	4.331	4.324	1.653	1.636	2.750



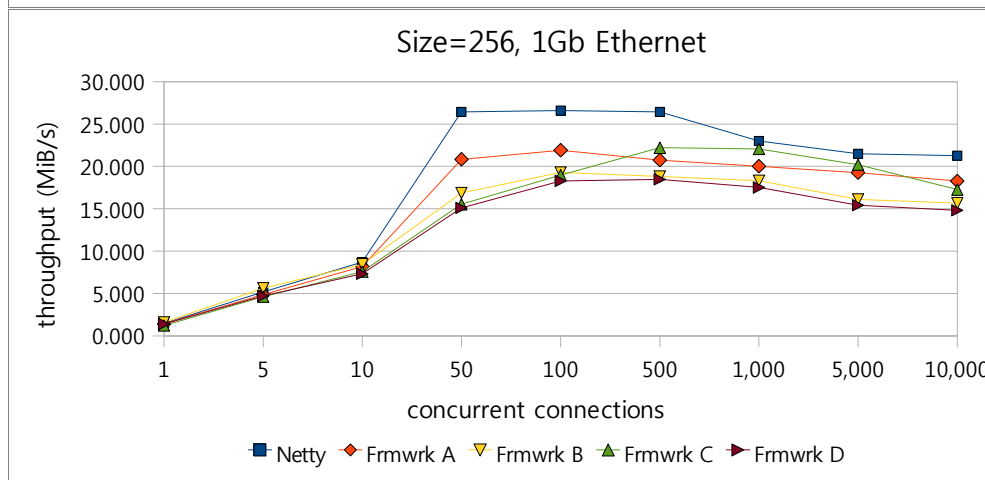
Size=128 1Gb Ethernet

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	0.770	0.748	0.846	0.637	0.723
5	2.660	2.496	2.869	2.440	2.378
10	4.474	4.192	4.260	3.872	3.764
50	12.882	10.152	8.664	7.732	7.933
100	12.634	10.433	10.214	9.348	9.249
500	11.939	9.998	10.884	10.785	9.143
1,000	10.526	9.167	9.682	11.012	8.873
5,000	9.896	8.889	7.741	8.591	7.756
10,000	9.680	8.446	4.272	4.450	7.312



Size=256 1Gb Ethernet

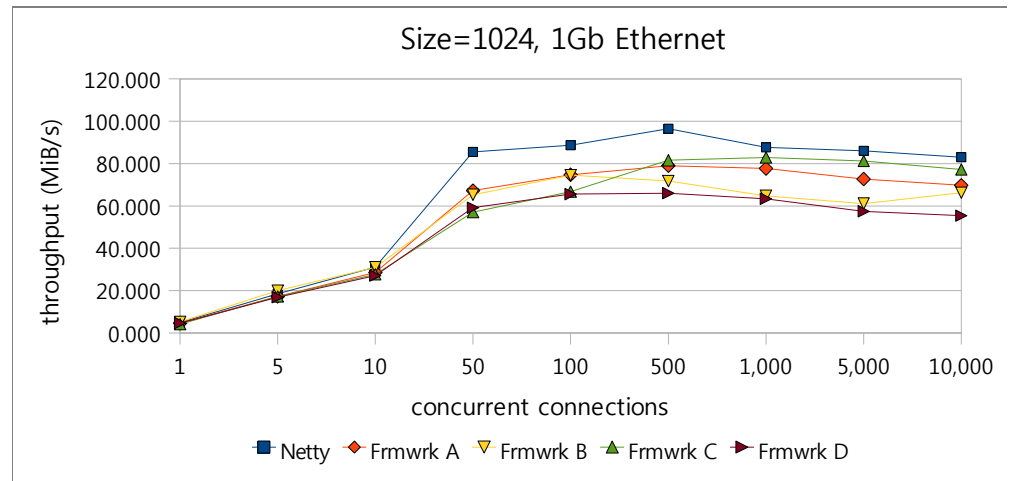
	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	1.473	1.417	1.596	1.222	1.391
5	5.187	4.847	5.620	4.613	4.711
10	8.709	8.173	8.430	7.577	7.312
50	26.443	20.838	16.865	15.528	15.102
100	26.595	21.909	19.297	18.974	18.298
500	26.423	20.750	18.803	22.201	18.476
1,000	23.018	20.028	18.315	22.048	17.512
5,000	21.487	19.264	16.108	20.196	15.407
10,000	21.268	18.268	15.666	17.262	14.809



Performance Comparison between NIO Frameworks

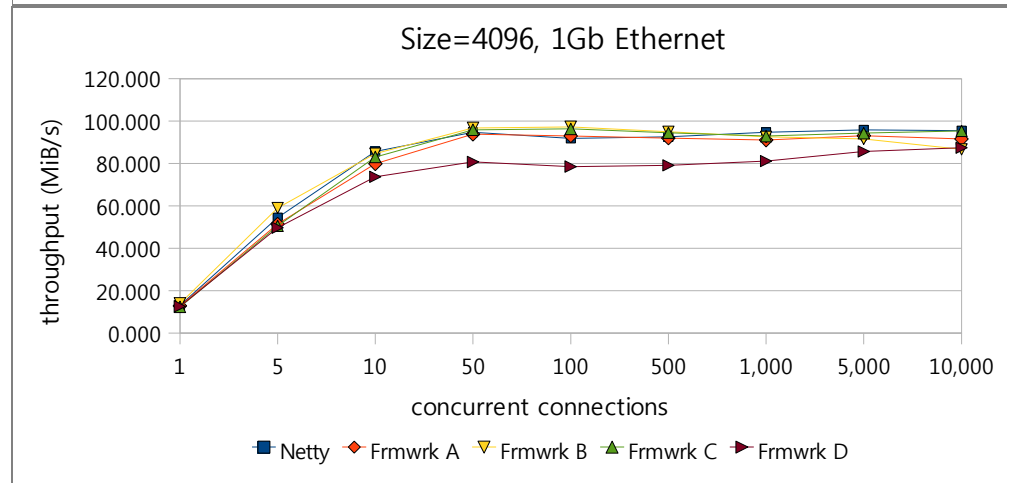
Size=1024 1Gb Ethernet

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	4.825	4.652	5.248	4.173	4.710
5	18.472	17.266	19.984	17.214	16.901
10	31.127	28.612	31.020	27.699	27.095
50	85.572	67.207	65.274	57.051	59.142
100	88.633	74.710	74.498	66.763	65.571
500	96.424	79.007	71.759	81.568	66.033
1,000	87.685	77.630	64.785	82.883	63.405
5,000	85.974	72.671	61.093	81.230	57.475
10,000	82.941	69.756	66.210	77.166	55.377



Size=4096 1Gb Ethernet

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	13.061	12.791	13.973	12.311	12.595
5	54.416	51.396	58.952	50.548	49.657
10	85.681	79.879	84.684	83.077	73.712
50	94.693	93.814	96.791	95.916	80.717
100	91.884	93.010	97.287	96.337	78.549
500	92.566	91.960	95.000	94.456	79.115
1,000	94.731	91.093	92.558	92.946	81.135
5,000	95.854	93.035	91.623	94.312	85.689
10,000	95.465	91.551	86.665	95.373	87.452



Size=16384 1Gb Ethernet

	Netty	Frmwrk A	Frmwrk B	Frmwrk C	Frmwrk D
1	41.806	42.022	45.751	41.215	41.113
5	96.504	93.165	98.462	94.683	88.495
10	99.271	98.087	103.881	99.094	89.742
50	96.263	97.127	103.298	97.673	84.028
100	98.621	98.443	101.125	98.720	84.506
500	106.172	103.764	104.945	104.583	97.535
1,000	106.087	104.438	103.623	103.925	100.134
5,000	104.426	100.536	75.118	99.409	96.453
10,000	102.595	98.321	96.200	Failure	94.944

