

## FogBus Testing Results

### Number of tasks (in 5 min)

	With Blockchain			Without Blockchain		
Max Load	94	88	267	653	135	1693
0.2 instr/sec	51	49	50	52	43	60

### Energy per second - Power (watts)

	With Blockchain			Without Blockchain		
Max Load	22.5	136	21	29.5	148	28
0.2 instr/sec	21.5	134	20	23.5	135	22

### Energy per task (joules)

	With Blockchain			Without Blockchain		
Max Load	71.80851	463.6364	23.59551	13.55283	328.8889	4.961607
0.2 instr/sec	126.4706	820.4082	120	135.5769	941.8605	110

### Data packets sent / second

	With Blockchain			Without Blockchain		
Max Load	892	7214	142	1857	1482	1126
0.2 instr/sec	412	3241	146	483	2165	141

### Data packets received / second

	With Blockchain			Without Blockchain		
Max Load	3949	45968	524	2858	4792	3219
0.2 instr/sec	504	29824	513	519	1133	506

### Network Usage per task

	With Blockchain			Without Blockchain		
Max Load	51.5	604.3409	2.494382	7.220521	46.47407	2.56645
0.2 instr/sec	17.96078	674.7959	13.18	19.26923	76.69767	10.78333

### Latency (seconds)

### Remarks

Obtained from in script measurements

Obtained through Joulemeter application

Power X 5 minutes / Number of tasks

Obtained from Windows performance monitor

Obtained from Windows performance monitor

Data packets (sent + recd) / Number of tasks

### Legend

Fog Only

Cloud Only

Master Only

	With Blockchain			Without Blockchain		
Max Load	3.178858	3.486904	1.166281	0.460067	2.240126	0.17726
0.2 instr/sec	3.043652	3.210355	1.188388	0.583891	2.368366	0.158922

Obtained from in script measurements

#### Master CPU Usage (%)

	With Blockchain			Without Blockchain		
Max Load	9.08	28.12	28.32	10.55	27.18	28.5
0.2 instr/sec	8.46	28.43	13.67	8.78	18.67	22.96

Obtained from Windows performance monitor

#### Master RAM Usage (%)

	With Blockchain			Without Blockchain		
Max Load	49.03	65.159	46.26	48.218	60.16	53.258
0.2 instr/sec	49.175	66.017	48.19	47.509	59.86	46.64

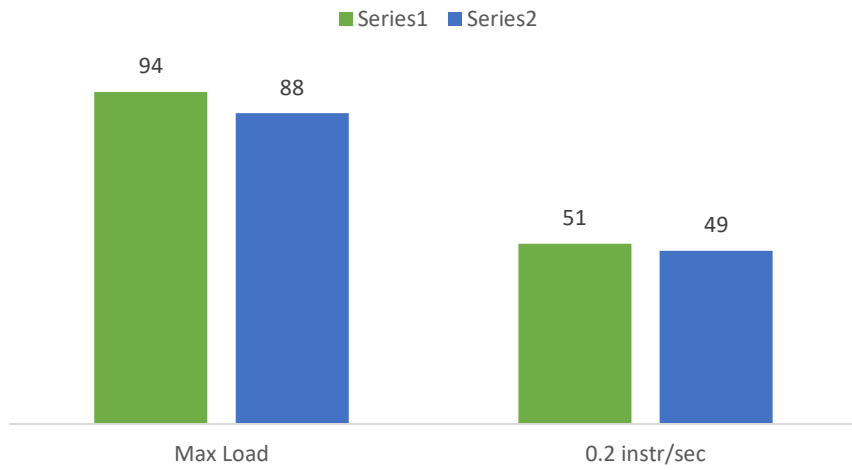
Obtained from Windows performance monitor

#### Master Cache Usage (E08 bytes)

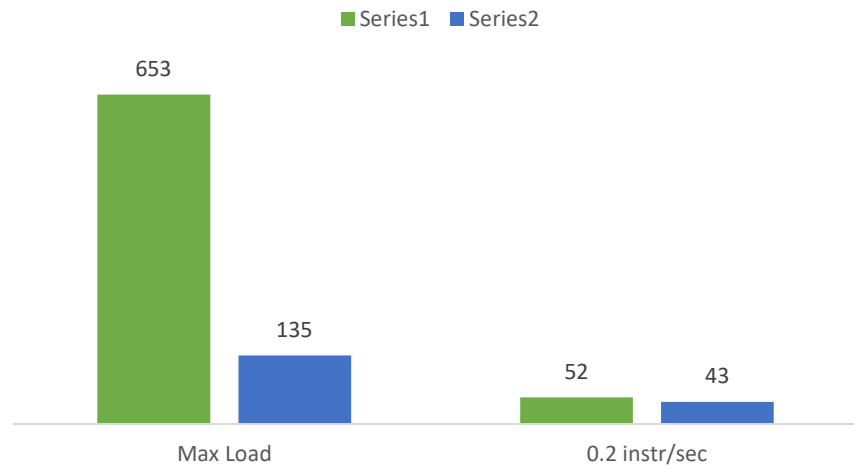
	With Blockchain			Without Blockchain		
Max Load	1.43	2.02	2.52	1.42	2.08	2.15
0.2 instr/sec	1.43	1.98	1.98	1.43	2.04	1.98

Obtained from Windows performance monitor

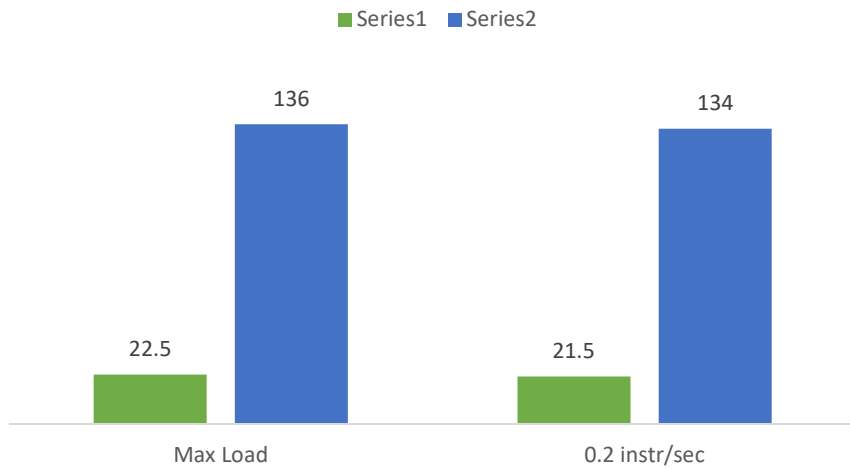
Number of tasks (With Blockchain)



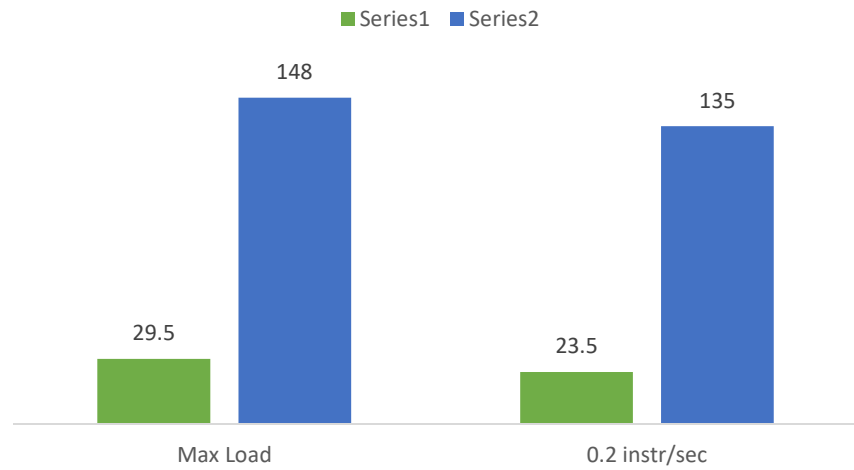
Number of tasks (Without Blockchain)



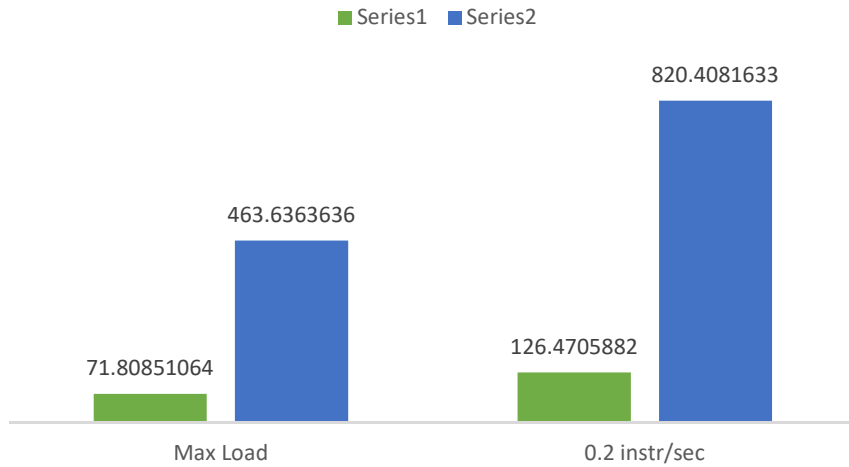
Power (With Blockchain)



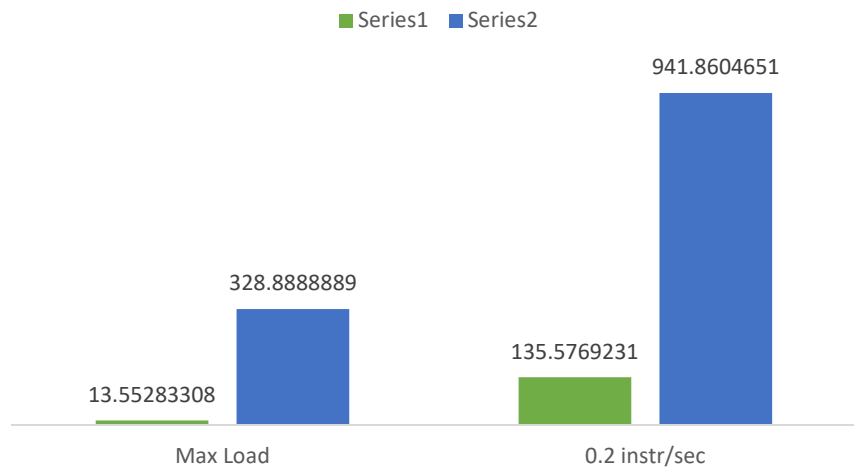
Power (Without Blockchain)



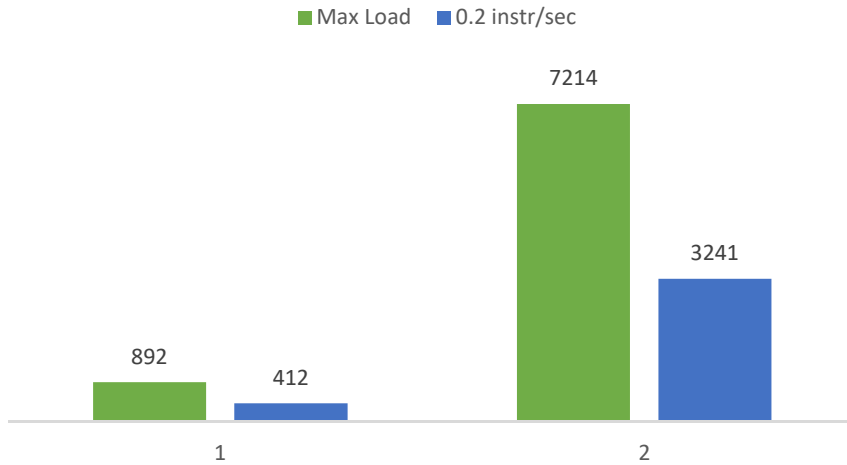
Energy per task (With Blockchain)



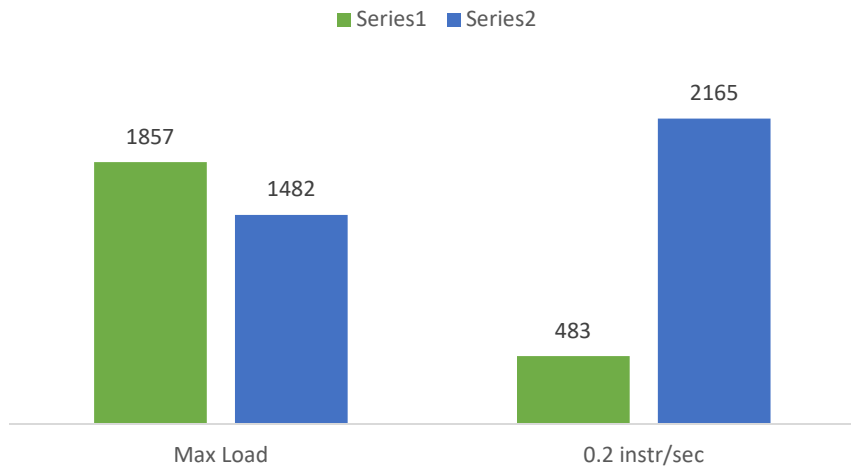
Energy per task (Without Blockchain)



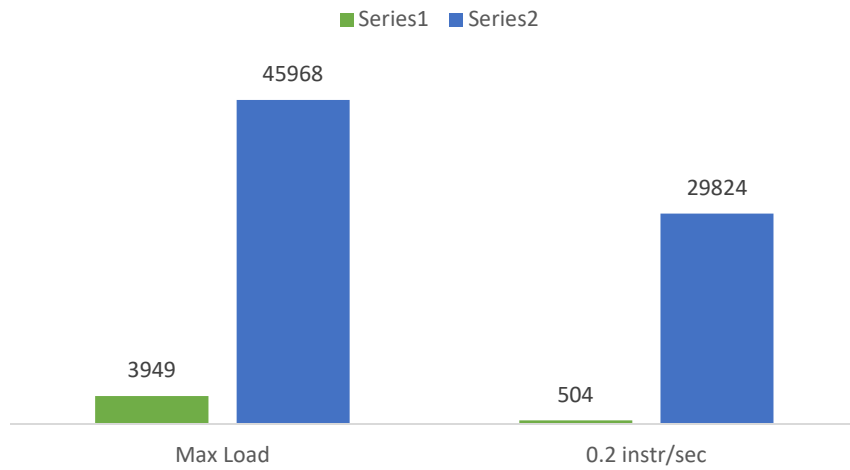
Bytes sent / second (With Blockchain)



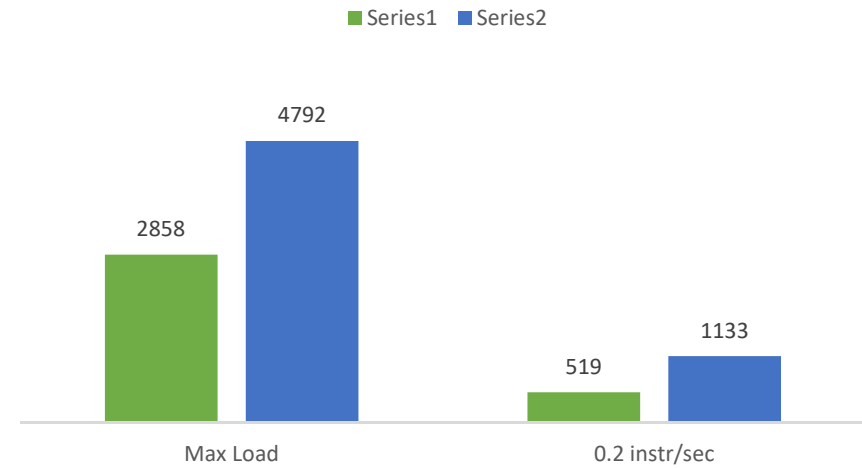
Bytes sent / second (Without Blockchain)



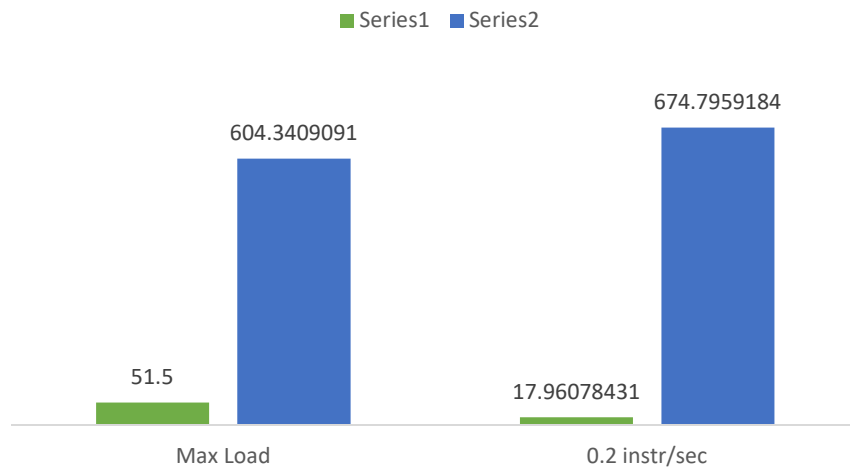
Bytes received / second (With Blockchain)



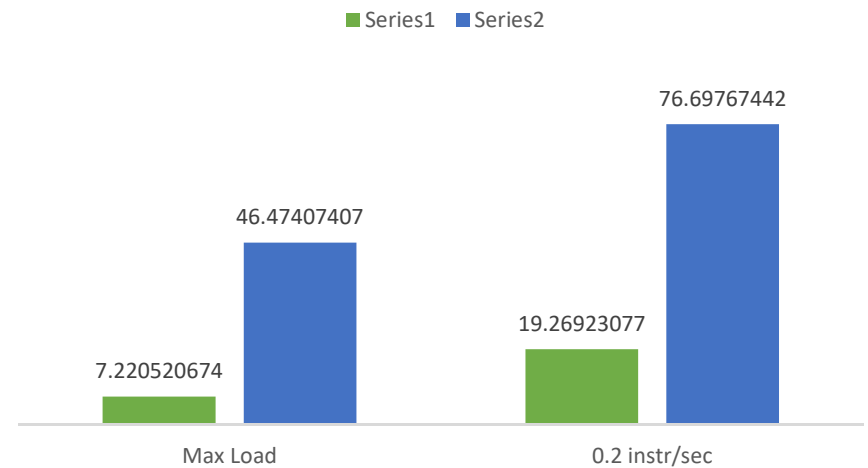
Bytes received / second (Without Blockchain)

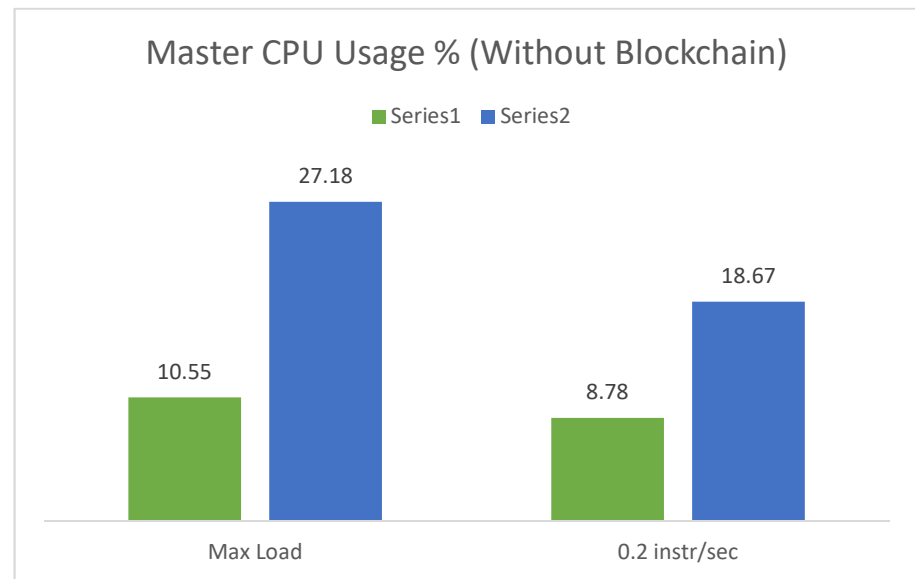
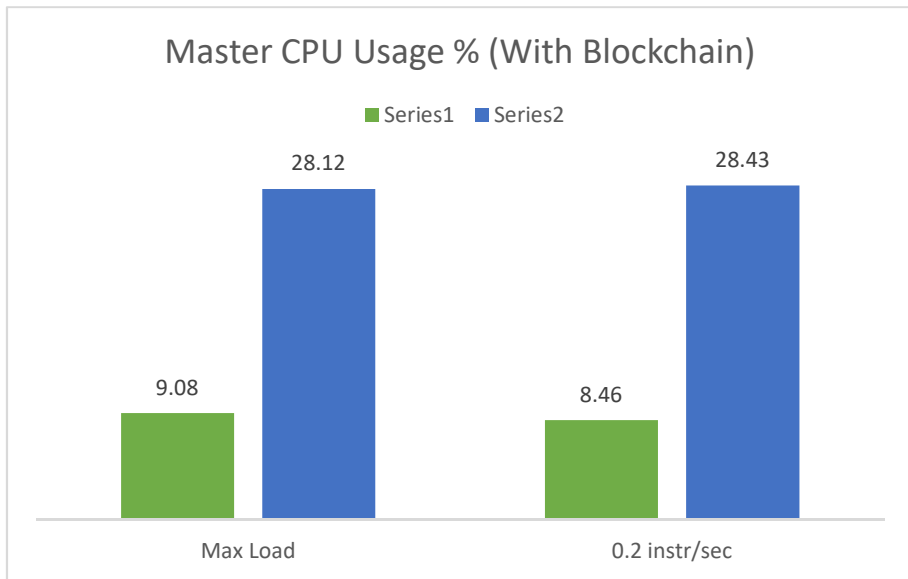
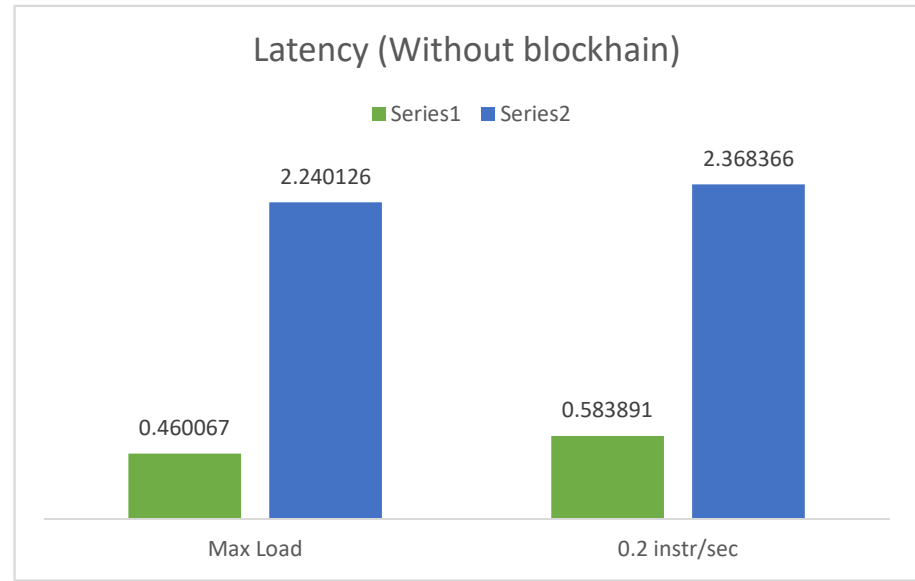
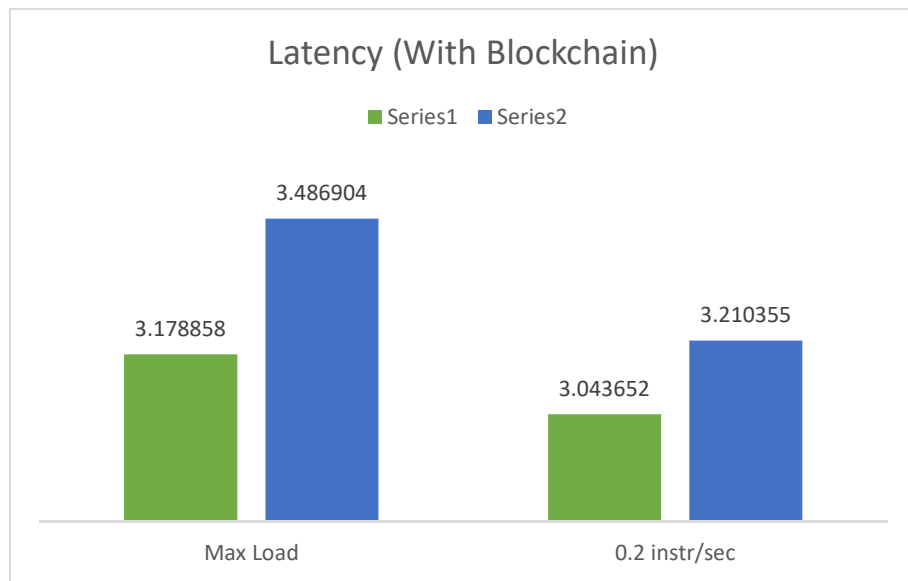


Network Usage per task (With Blockchain)

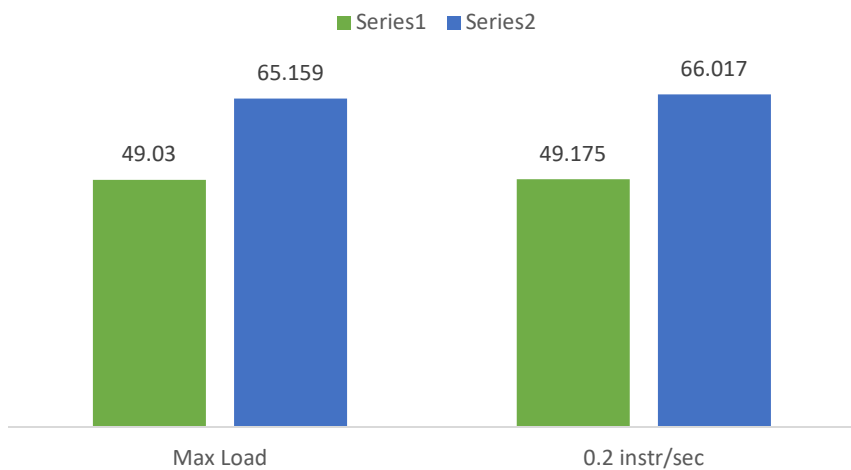


Network Usage per task (Without Blockchain)

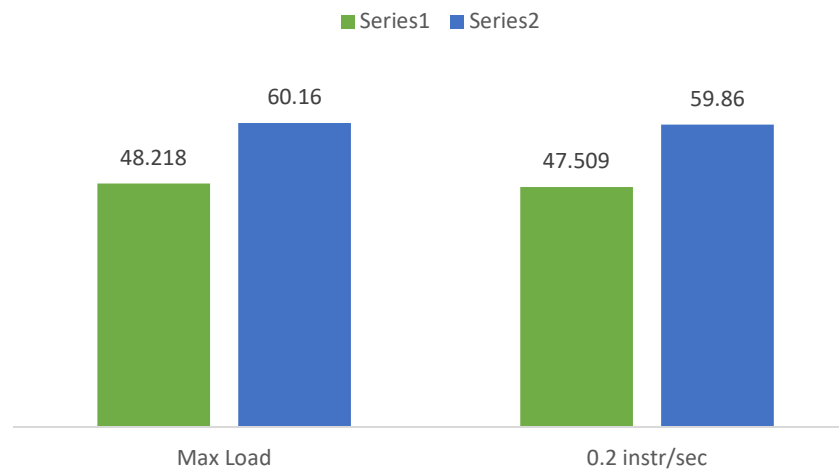




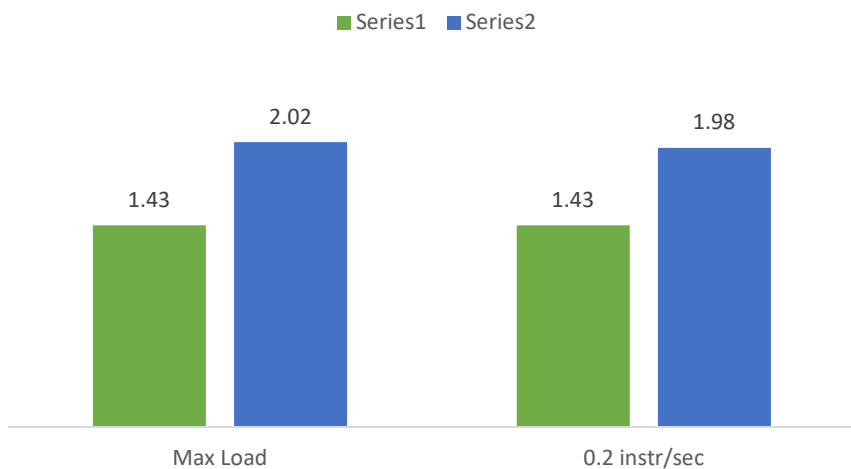
Master RAM Usage % (With Blockchain)



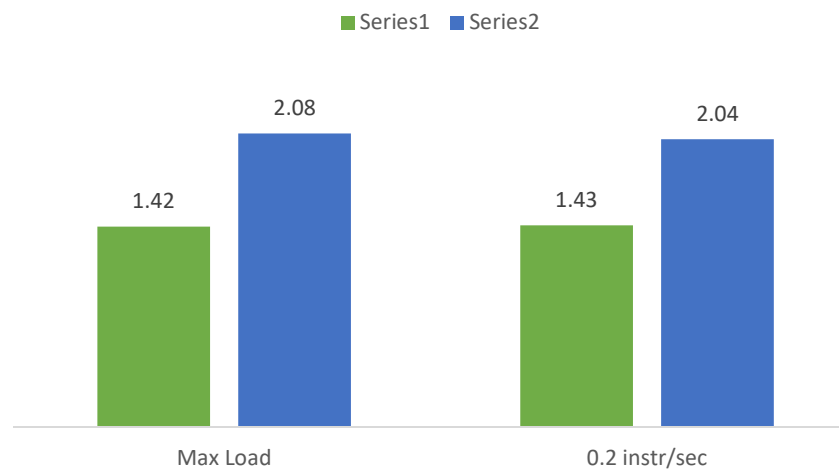
Master RAM Usage % (Without Blockchain)



Master Cache Usage (With Blockchain)

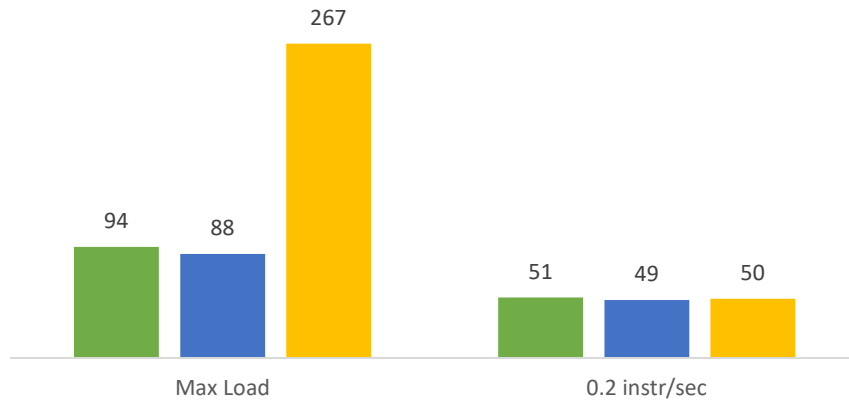


Master Cache Usage (Without Blockchain)



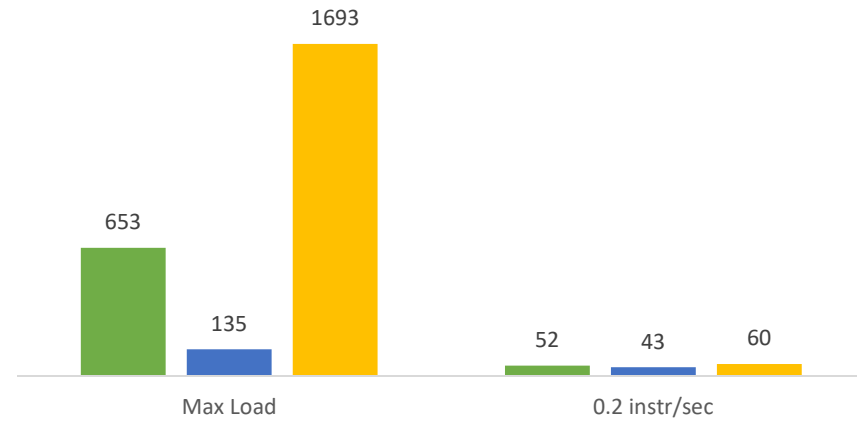
### Number of Tasks (With Blockchain)

Series1 Series2 Series3



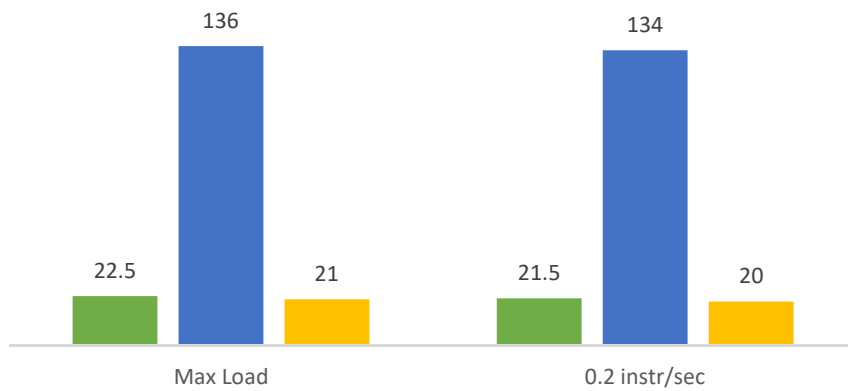
### Number of Tasks (Without Blockchain)

Series1 Series2 Series3



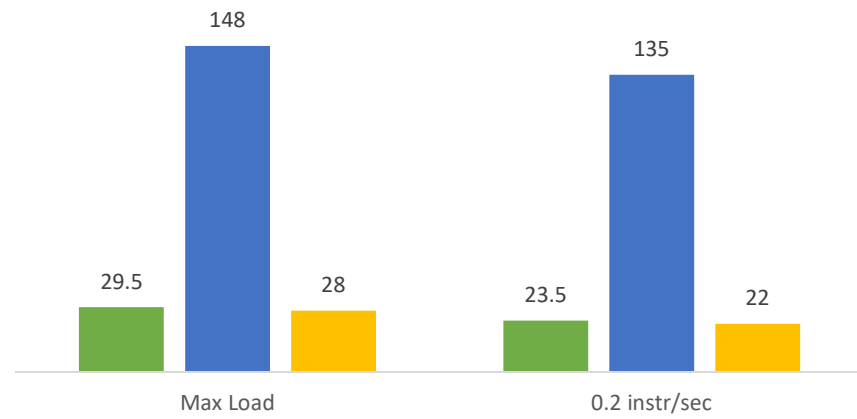
### Power (With Blockchain)

Series1 Series2 Series3



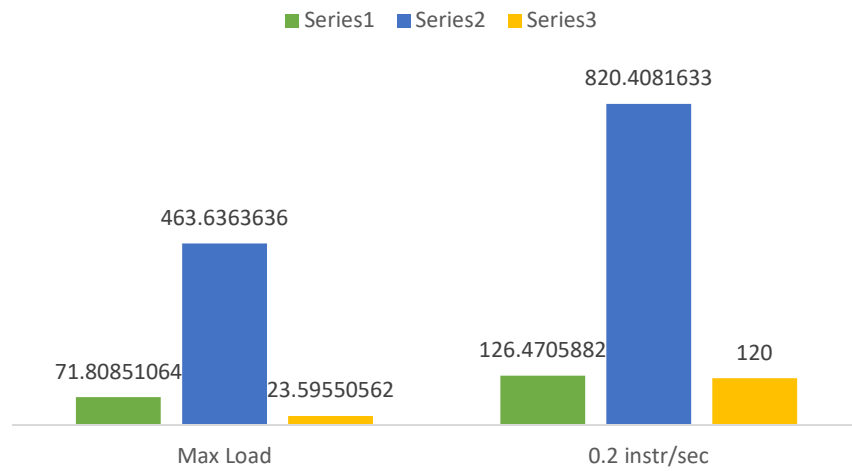
### Power (Without Blockchain)

Series1 Series2 Series3

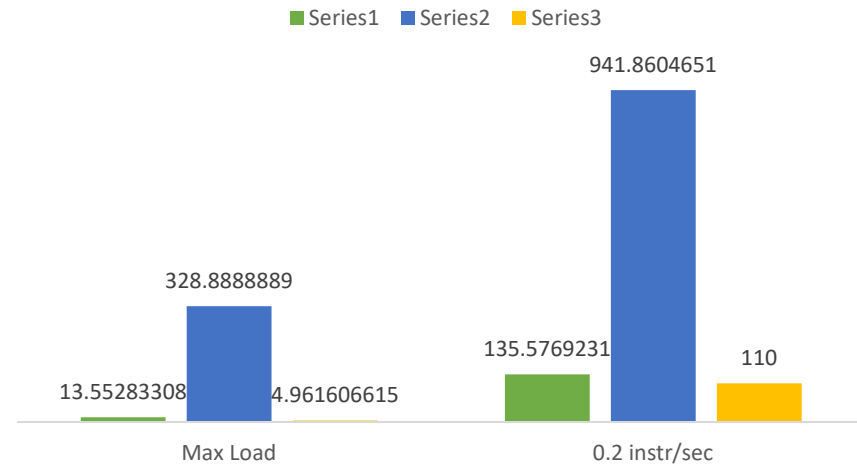




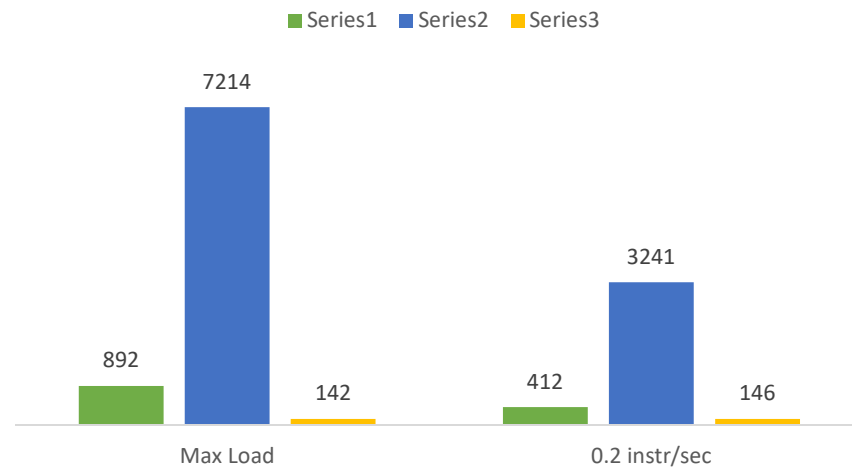
Energy per task (With Blockchain)



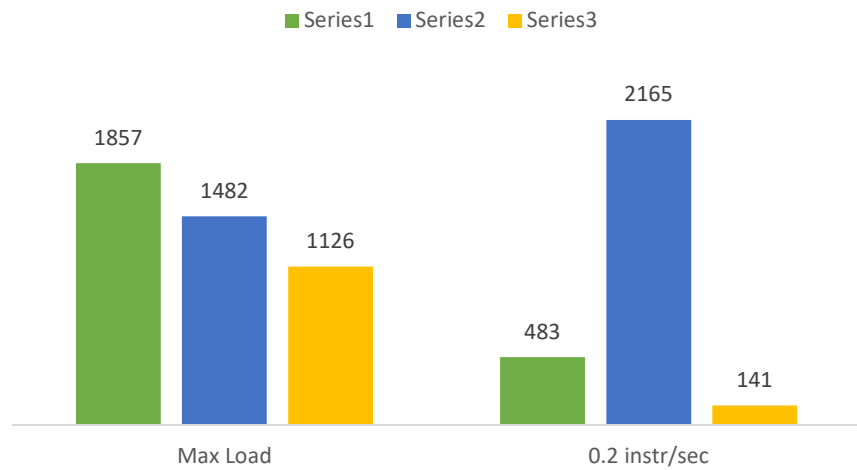
Energy per task (Without Blockchain)



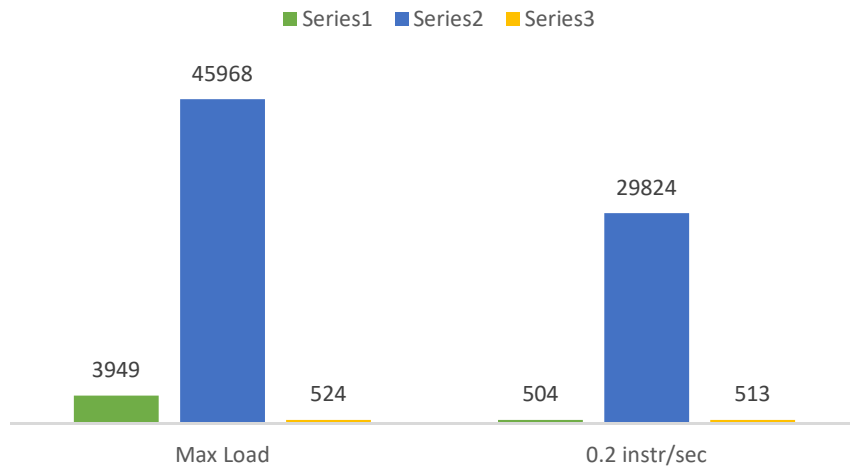
Bytes sent per second (With Blockchain)



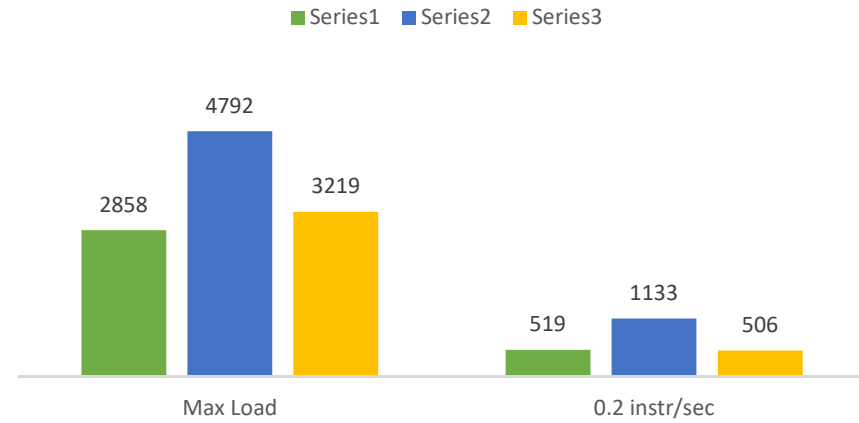
Bytes sent per second (Without Blockchain)



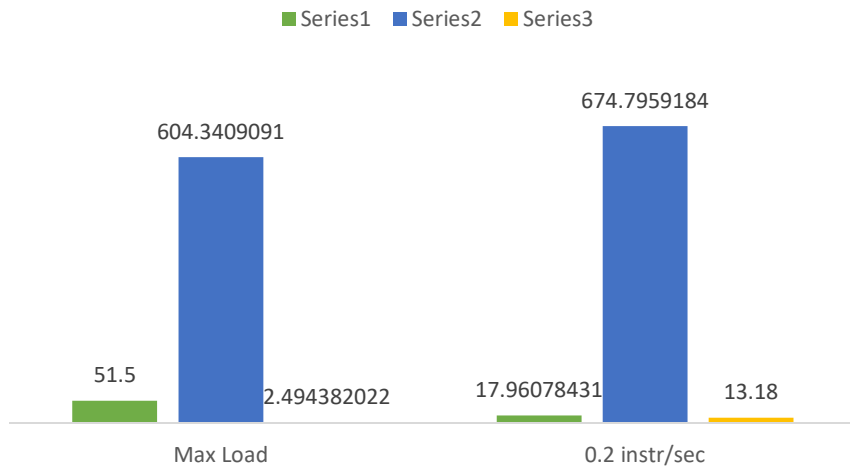
Bytes received per second (With Blockchain)



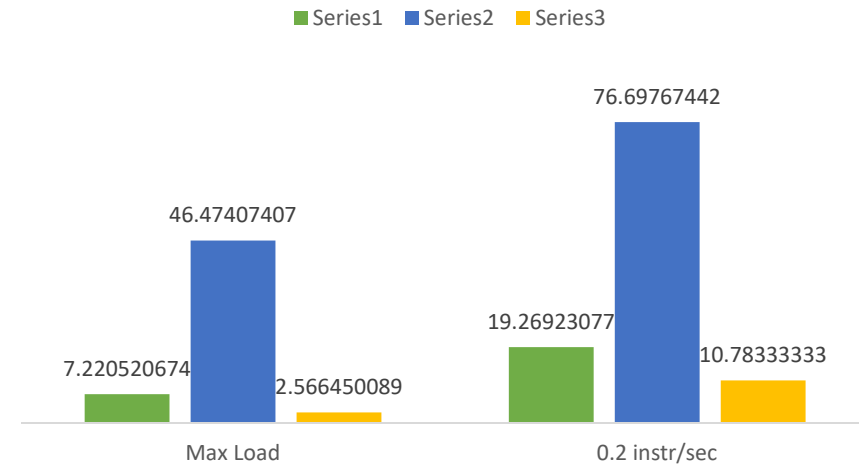
Bytes received per second (Without Blockchain)



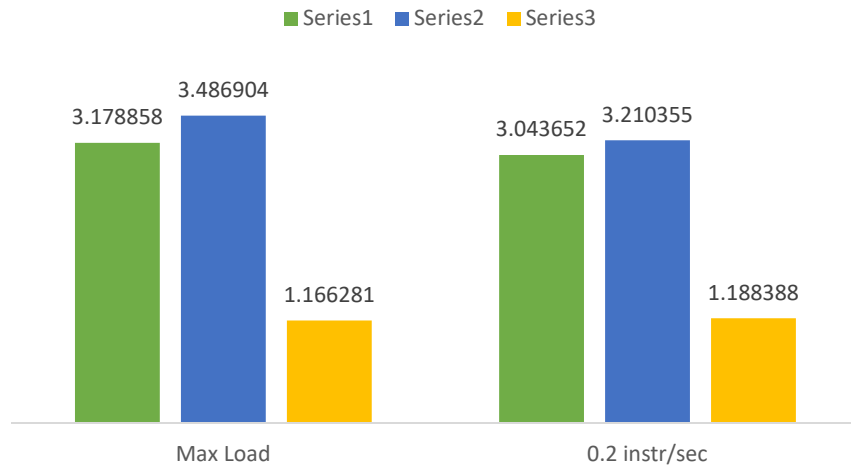
Network usage per task (With Blockchain)



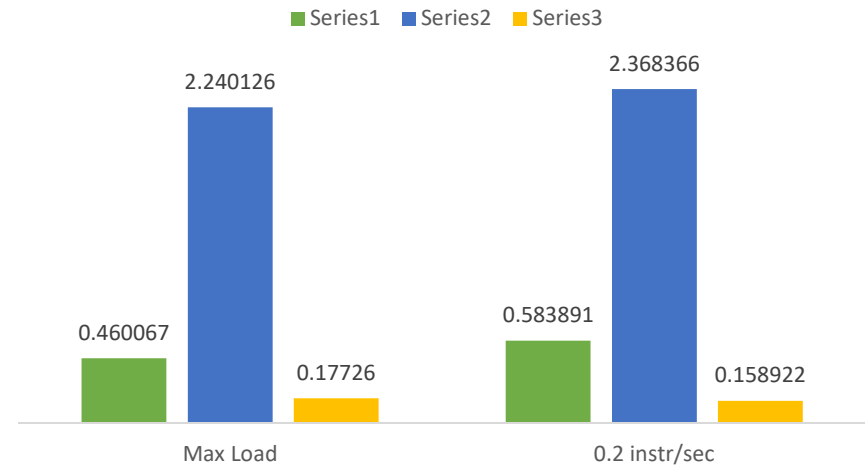
Network Usage per task (Without Blockchain)



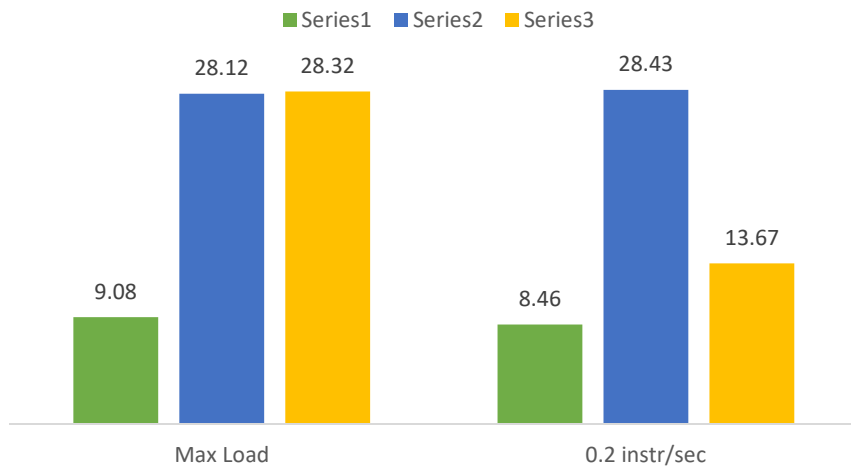
Latency (With Blockchain)



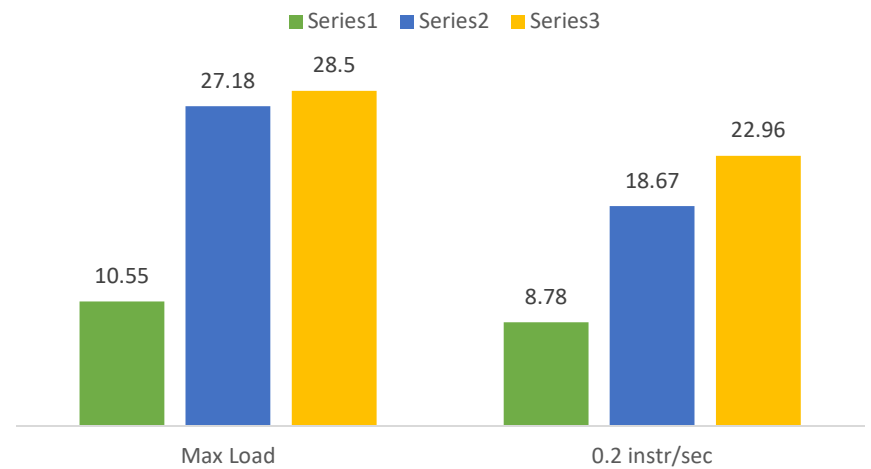
Latency (Without Blockchain)



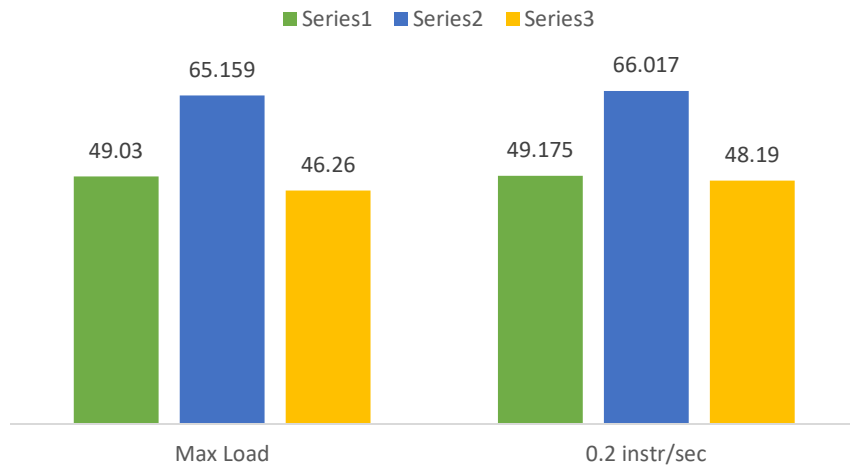
Master CPU Usage % (With Blockchain)



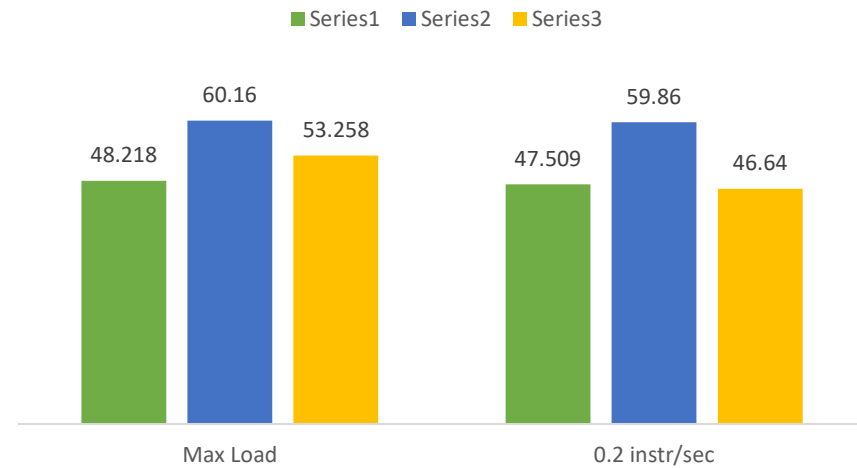
Master CPU Usage % (Without Blockchain)



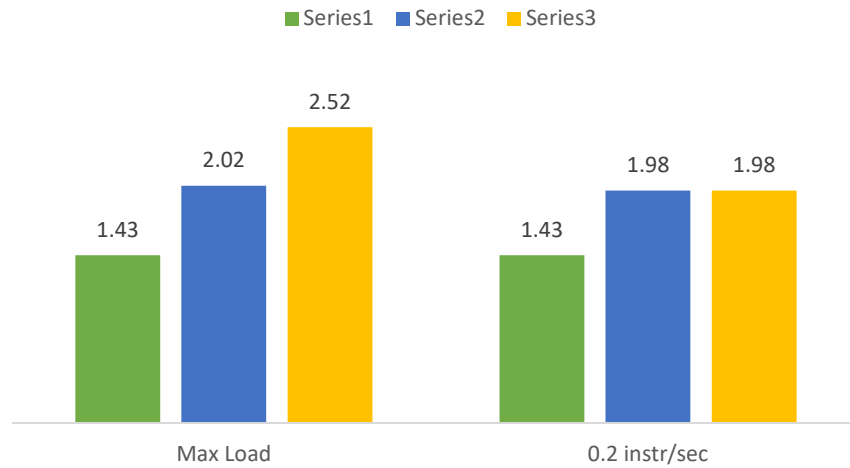
Master RAM Usage % (With Blockchain)



Master RAM Usage % (Without Blockchain)



Master Cache Usage (With Blockchain)



Master Cache Usage (Without Blockchain)

