

# Experiment Results

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## 1 Results

### 1.1 Two servers

Table 1: Scenario1:  $0 \rightarrow 1$

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	148761791	6.722156228947257
100	154409647	6.476279296202264
100	156606608	6.385426597069263
300	160456294	6.232226702182215
500	165732700	6.033812277239193
1000	168584209	5.931753667391232
10000	340150267	2.93987715729178

Table 2: Scenario2:  $0 \rightleftharpoons 1$

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	150022466	6.665668327302392
20	141142712	7.085027528732762
100	146183637	6.840710906652295
200	149604049	6.684311064334896
300	156600000	6.385696040868455
500	164927617	6.063265923499034
1000	172488666	5.797482369073456
10000	1128449240	1.772343787479533

Table 3: Scenario3:  $0 \rightleftharpoons 1, 2 \rightleftharpoons 3$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	163197556	6.127542743348436
20	150765919	6.632798756063696
100	148765688	6.721980138323294
100	157394283	6.353470919906284
500	161453879	6.193719260222915
1000	188165741	5.314463699319208
10000	1647527738	2.427880215756343

Table 4: Scenario4: random  $\rightarrow$  random

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	150758713	6.633115792120088
50	154871001	6.456986740855378
100	157023010	6.368493381957205
300	156288170	6.398436938637134
500	161974002	6.173830291604451
1000	171376165	5.835117152959981
10000	373847694	2.6748860994713

## 1.2 Four servers without indexes

## 1.3 Four servers with an index of outputs

## 1.4 Four servers with indexes of outputs and signatures

# 2 Results

## 2.1 Two servers

## 2.2 Four servers with an index of outputs

## 2.3 Four servers with indexes of outputs and signatures

Table 5: Scenario1:  $0 \rightarrow 1$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	193722735	5.162016734896913
100	202954293	4.927217775087911
500	216443685	4.620139414092862
1000	231551961	4.318685083388259

Table 6: Scenario2:  $0 \rightleftharpoons 1$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	172404407.5	5.800315748888264
100	188101597.5	5.316275955604258
500	430972190	4.640670666012116
1000	112816493.75	4.431976064670065

Table 7: Scenario3:  $0 \rightleftharpoons 1, 2 \rightleftharpoons 3$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	199265295.5	5.018435335118352
100	183712099.5	5.443299612391616
500	205771444	4.859760813069864
1000	857707469	4.663594692329769

Table 8: Scenario4: random  $\rightarrow$  random

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	194522775	5.140786213850795
100	191577972	5.219806794906462
500	190691661	5.244067804307394
1000	203425823	4.915796752116372

Table 9: Scenario1:  $0 \rightarrow 1$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	232401207	4.302903641976352
100	190616043	5.246148142945135
1000	228978555	4.367221201129512
10000	322216303	3.103505287254196

Table 10: Scenario2:  $0 \rightleftharpoons 1$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	195636468	5.111521436790609
100	179822701.5	5.561033126843554
1000	207332937.5	4.823160333605942
10000	656515472.5	1.523193347130139

Table 11: Scenario3:  $0 \rightleftharpoons 1, 2 \rightleftharpoons 3$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	186830205	5.352453582117517
100	181332388.25	5.514734624359088
1000	197475370.75	5.063922636033334
10000	504321558.75	1.982861891683904

Table 12: Scenario4: random  $\rightarrow$  random

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	195030247	5.127409801208938
100	227470659	4.396171376107017
1000	195046753	5.126975889724245
10000	507964728	1.968640625771953

Table 13: Scenario5:  $0 \rightarrow 4$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	322936844	3.096580704801834
100	319272782	3.132117914141519
1000	220496015	4.535229355505586
10000	396806198	2.520121926119712

Table 14: Scenario1:  $0 \rightarrow 1$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	190640337	5.245479606973208
100	234391428	4.266367625014
1000	225553084	4.433546118128006
10000	286708250	3.487866149648641

Table 15: Scenario2:  $0 \rightleftharpoons 1$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	168101877.5	5.948773534667987
100	201384470	4.965626197491793
1000	205138824.5	4.874747637056875
10000	284447847	3.515582946212281

Table 16: Scenario3:  $0 \rightleftharpoons 1, 2 \rightleftharpoons 3$ 

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	193601169.25	5.165258060547586
100	218469990.5	4.577287698467676
1000	203208346.5	4.921057708621235
10000	368596069.5	2.712996916533859

Table 17: Scenario4: random  $\rightarrow$  random

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	187788616	5.325136428930282
100	181267428	5.516710922825032
1000	183694980	5.44380690207212
10000	220173193	4.541878992507503

Table 18: Scenario5: 0  $\rightarrow$  4

trials [transaction]	time [ns/transaction]	speed [transaction/s]
10	230631065	4.335929333717468
100	189092211	5.288425127146036
1000	232953581	4.292700699028962
10000	318292258	3.14176664642594

Table 19: Scenario1: 0  $\rightarrow$  1

trials [tx]	speed [tx/s]
10	6.72
100	6.48
500	6.03
1000	5.93
10000	2.94

Table 20: Scenario2: 0  $\rightleftharpoons$  1

trials [tx]	speed [tx/s]
10	6.67
100	6.84
500	6.06
1000	5.80
10000	1.77

Table 21: Scenario3: 0  $\rightleftharpoons$  1, 2  $\rightleftharpoons$  3

trials [tx]	speed [tx/s]
10	6.13
100	6.72
500	6.19
1000	5.31
10000	2.43

Table 22: Scenario4: rand  $\rightarrow$  rand

trials [tx]	speed [tx/s]
10	6.63
100	6.37
500	6.17
1000	5.84
10000	2.67

Table 23: Scenario1:  $0 \rightarrow 1$ 

trials [tx]	speed [tx/s]
10	4.30
100	5.25
1000	4.37
10000	3.10

Table 24: Scenario2:  $0 \rightleftharpoons 1$ 

trials [tx]	speed [tx/s]
10	5.11
100	5.56
1000	4.82
10000	1.52

Table 25: Scenario3:  $0 \rightleftharpoons 1, 2 \rightleftharpoons 3$ 

trials [tx]	speed [tx/s]
10	5.35
100	5.51
1000	5.06
10000	1.98

Table 26: Scenario4: rand  $\rightarrow$  rand

trials [tx]	speed [tx/s]
10	5.13
100	4.40
1000	5.13
10000	1.97

Table 27: Scenario5:  $0 \rightarrow 4$ 

trials [transaction]	speed [transaction/s]
10	3.10
100	3.13
1000	4.54
10000	2.52

Table 28: Scenario1:  $0 \rightarrow 1$ 

trials [tx]	speed [tx/s]
10	5.25
100	4.27
1000	4.43
10000	3.49

Table 29: Scenario2:  $0 \rightleftharpoons 1$ 

trials [tx]	speed [tx/s]
10	5.95
100	5.00
1000	4.87
10000	3.52

Table 30: Scenario3:  $0 \rightleftharpoons 1, 2 \rightleftharpoons 3$ 

trials [tx]	speed [tx/s]
10	5.17
100	4.58
1000	4.92
10000	2.71

Table 31: Scenario4:  $\text{rand} \rightarrow \text{rand}$ 

trials [tx]	speed [tx/s]
10	5.33
100	5.52
1000	5.44
10000	4.54

Table 32: Scenario5:  $0 \rightarrow 4$ 

trials [transaction]	speed [transaction/s]
10	4.34
100	5.23
1000	4.29
10000	3.14