

Benchmark Name		Parameters			Mean TPS	Mean Latency
		RL	TXs in batch	PD		
DoNothing	DoNothing	50	1	1	33.27	13.62
DoNothing	DoNothing	50	1	2	35.13	10.78
DoNothing	DoNothing	50	1	5	33.04	10.99
DoNothing	DoNothing	50	1	10	34.58	12.67
DoNothing	DoNothing	100	1	1	24.83	27.1
DoNothing	DoNothing	100	1	2	24.88	26
DoNothing	DoNothing	100	1	5	16.58	19.29
DoNothing	DoNothing	100	1	10	23.84	29.62
DoNothing	DoNothing	200	1	1	0	0
DoNothing	DoNothing	200	1	2	0	0
DoNothing	DoNothing	200	1	5	0	0
DoNothing	DoNothing	200	1	10	0	0
DoNothing	DoNothing	400	1	1	0	0
DoNothing	DoNothing	400	1	2	0	0
DoNothing	DoNothing	400	1	5	0	0
DoNothing	DoNothing	400	1	10	0	0
DoNothing	DoNothing	50	50	1	60.49	25.4
DoNothing	DoNothing	50	50	2	60	25.36
DoNothing	DoNothing	50	50	5	60.49	25.51
DoNothing	DoNothing	50	50	10	60.49	25.19
DoNothing	DoNothing	100	50	1	55.36	39.42
DoNothing	DoNothing	100	50	2	55.56	39.1
DoNothing	DoNothing	100	50	5	56.18	36.47
DoNothing	DoNothing	100	50	10	55.36	39.2
DoNothing	DoNothing	200	50	1	45.97	97.21
DoNothing	DoNothing	200	50	2	45.11	98.53
DoNothing	DoNothing	200	50	5	42.13	112.23
DoNothing	DoNothing	200	50	10	41.61	111.96
DoNothing	DoNothing	400	50	1	57.05	121.41
DoNothing	DoNothing	400	50	2	55.93	123.62
DoNothing	DoNothing	400	50	5	53.53	152.03
DoNothing	DoNothing	400	50	10	55.64	121.73
DoNothing	DoNothing	50	100	1	102.74	21.88
<b>DoNothing</b>	<b>DoNothing</b>	<b>50</b>	<b>100</b>	<b>2</b>	<b>103.47</b>	<b>22.17</b>
DoNothing	DoNothing	50	100	5	102.05	21.89
DoNothing	DoNothing	50	100	10	103.1	21.94
DoNothing	DoNothing	100	100	1	91.74	37.06
DoNothing	DoNothing	100	100	2	90.91	37.43
DoNothing	DoNothing	100	100	5	91.47	37.16
DoNothing	DoNothing	100	100	10	91.74	37.41
DoNothing	DoNothing	200	100	1	58.94	151.97
DoNothing	DoNothing	200	100	2	57.58	134.25
DoNothing	DoNothing	200	100	5	56.57	133.03
DoNothing	DoNothing	200	100	10	38.45	94.53
DoNothing	DoNothing	400	100	1	47.39	233.51
DoNothing	DoNothing	400	100	2	45.53	237.48
DoNothing	DoNothing	400	100	5	51.41	215.6

DoNothing DoNothing	400	100	10	51.82	217.21
KeyValue Set	50	1	1	25.87	12.55
KeyValue Set	50	1	2	30.6	9.37
KeyValue Set	50	1	5	29.02	9.59
KeyValue Set	50	1	10	29.77	12.38
KeyValue Set	100	1	1	16.45	14.84
KeyValue Set	100	1	2	22.56	21.09
KeyValue Set	100	1	5	7.76	9.32
KeyValue Set	100	1	10	12.61	13.6
KeyValue Set	200	1	1	0	0
KeyValue Set	200	1	2	0	0
KeyValue Set	200	1	5	0	0
KeyValue Set	200	1	10	0	0
KeyValue Set	400	1	1	0	0
KeyValue Set	400	1	2	0	0
KeyValue Set	400	1	5	0	0
KeyValue Set	400	1	10	0	0
KeyValue Set	50	50	1	54.46	60.51
KeyValue Set	50	50	2	54.28	59.71
KeyValue Set	50	50	5	54.47	60.17
KeyValue Set	50	50	10	54.43	60.51
KeyValue Set	100	50	1	52.21	58.01
KeyValue Set	100	50	2	52.03	57.49
KeyValue Set	100	50	5	52.09	57.59
KeyValue Set	100	50	10	52.28	57.52
KeyValue Set	200	50	1	36.14	144.92
KeyValue Set	200	50	2	36.97	145.76
KeyValue Set	200	50	5	33.1	171.09
KeyValue Set	200	50	10	27.76	206.22
KeyValue Set	400	50	1	25.56	176.85
KeyValue Set	400	50	2	25.71	178.74
KeyValue Set	400	50	5	24.69	191.23
KeyValue Set	400	50	10	24.65	190.78
KeyValue Set	50	100	1	89.48	19.69
KeyValue Set	50	100	2	89.2	20.34
KeyValue Set	50	100	5	89.16	19.05
<b>KeyValue Set</b>	<b>50</b>	<b>100</b>	<b>10</b>	<b>90.28</b>	<b>19.68</b>
KeyValue Set	100	100	1	79.2	37.94
KeyValue Set	100	100	2	78.74	37.9
KeyValue Set	100	100	5	79.55	37.86
KeyValue Set	100	100	10	79.46	38.22
KeyValue Set	200	100	1	31.1	195.12
KeyValue Set	200	100	2	31.57	187.88
KeyValue Set	200	100	5	33.83	189.39
KeyValue Set	200	100	10	31.6	187.94
KeyValue Set	400	100	1	23.21	243.85
KeyValue Set	400	100	2	29.21	210.77
KeyValue Set	400	100	5	25.21	232.06
KeyValue Set	400	100	10	24.14	232.15
KeyValue Get	50	1	1	0	0
KeyValue Get	50	1	2	0	0
KeyValue Get	50	1	5	0	0
KeyValue Get	50	1	10	0	0
KeyValue Get	100	1	1	0	0
KeyValue Get	100	1	2	0	0
KeyValue Get	100	1	5	0	0

KeyValue Get	100	1	10	0	0
KeyValue Get	200	1	1	0	0
KeyValue Get	200	1	2	0	0
KeyValue Get	200	1	5	0	0
KeyValue Get	200	1	10	0	0
KeyValue Get	400	1	1	0	0
KeyValue Get	400	1	2	0	0
KeyValue Get	400	1	5	0	0
KeyValue Get	400	1	10	0	0
KeyValue Get	50	50	1	56.62	10.47
KeyValue Get	50	50	2	34.82	11.71
KeyValue Get	50	50	5	43.18	11.14
KeyValue Get	50	50	10	56.99	10.65
KeyValue Get	100	50	1	55.29	10.58
KeyValue Get	100	50	2	54.9	10.08
KeyValue Get	100	50	5	54.08	10.37
KeyValue Get	100	50	10	40.47	11.63
KeyValue Get	200	50	1	31.05	15.56
KeyValue Get	200	50	2	26.29	16.89
KeyValue Get	200	50	5	39.49	16.01
KeyValue Get	200	50	10	36.33	15.41
KeyValue Get	400	50	1	45.87	29.12
KeyValue Get	400	50	2	45.67	29.46
KeyValue Get	400	50	5	18.97	22.08
KeyValue Get	400	50	10	20.37	19.26
<b>KeyValue Get</b>	<b>50</b>	<b>100</b>	<b>1</b>	<b>92.91</b>	<b>10.75</b>
KeyValue Get	50	100	2	82.49	10.85
KeyValue Get	50	100	5	79.62	10.97
KeyValue Get	50	100	10	81.15	10.83
KeyValue Get	100	100	1	88.55	13.01
KeyValue Get	100	100	2	87.69	13.02
KeyValue Get	100	100	5	74.92	13.84
KeyValue Get	100	100	10	87.58	13.01
KeyValue Get	200	100	1	0	0
KeyValue Get	200	100	2	0	0
KeyValue Get	200	100	5	0	0
KeyValue Get	200	100	10	0	0
KeyValue Get	400	100	1	0	0
KeyValue Get	400	100	2	44.3	27.66
KeyValue Get	400	100	5	0	0
KeyValue Get	400	100	10	0	0
BankingApp CreateAccount	50	1	1	26.14	13.72
BankingApp CreateAccount	50	1	2	21.01	8.3
BankingApp CreateAccount	50	1	5	21.21	10.91
BankingApp CreateAccount	50	1	10	25.86	14.2
BankingApp CreateAccount	100	1	1	20.44	24.1
BankingApp CreateAccount	100	1	2	17.11	29.82
BankingApp CreateAccount	100	1	5	16.65	17.87
BankingApp CreateAccount	100	1	10	20.85	27.37
BankingApp CreateAccount	200	1	1	4.74	140.35
BankingApp CreateAccount	200	1	2	1.15	215.05
BankingApp CreateAccount	200	1	5	1.52	150.95
BankingApp CreateAccount	200	1	10	5.01	122.86
BankingApp CreateAccount	400	1	1	0	0
BankingApp CreateAccount	400	1	2	0	0
BankingApp CreateAccount	400	1	5	0	0

BankingApp	CreateAccount	400	1	10	0	0
BankingApp	CreateAccount	50	50	1	52.72	34.18
BankingApp	CreateAccount	50	50	2	52.52	33.74
BankingApp	CreateAccount	50	50	5	52.43	33.54
BankingApp	CreateAccount	50	50	10	52.47	33.81
BankingApp	CreateAccount	100	50	1	47.37	42.84
BankingApp	CreateAccount	100	50	2	47.86	41.02
BankingApp	CreateAccount	100	50	5	46.93	43.14
BankingApp	CreateAccount	100	50	10	47.67	41.15
BankingApp	CreateAccount	200	50	1	21.42	196.93
BankingApp	CreateAccount	200	50	2	20.65	194.69
BankingApp	CreateAccount	200	50	5	17.63	194.52
BankingApp	CreateAccount	200	50	10	16.9	194.81
BankingApp	CreateAccount	400	50	1	17.31	195.51
BankingApp	CreateAccount	400	50	2	14.58	218.19
BankingApp	CreateAccount	400	50	5	16.04	206.17
BankingApp	CreateAccount	400	50	10	18.76	184.14
BankingApp	CreateAccount	50	100	1	66.7	26.4
BankingApp	CreateAccount	50	100	2	67.56	25.95
BankingApp	CreateAccount	50	100	5	67.05	26.11
<b>BankingApp</b>	<b>CreateAccount</b>	<b>50</b>	<b>100</b>	<b>10</b>	<b>67.57</b>	<b>25.84</b>
BankingApp	CreateAccount	100	100	1	53.41	78.58
BankingApp	CreateAccount	100	100	2	54.07	74.1
BankingApp	CreateAccount	100	100	5	53.69	77.84
BankingApp	CreateAccount	100	100	10	54.53	73.22
BankingApp	CreateAccount	200	100	1	18.75	195.44
BankingApp	CreateAccount	200	100	2	19.46	200.81
BankingApp	CreateAccount	200	100	5	17.5	204.02
BankingApp	CreateAccount	200	100	10	18.86	192.07
BankingApp	CreateAccount	400	100	1	14.27	238.45
BankingApp	CreateAccount	400	100	2	15.49	224.83
BankingApp	CreateAccount	400	100	5	15.36	227.6
BankingApp	CreateAccount	400	100	10	15.65	225.73
BankingApp	SendPayment	50	1	1	0	0
BankingApp	SendPayment	50	1	2	0	0
BankingApp	SendPayment	50	1	5	0	0
BankingApp	SendPayment	50	1	10	0	0
BankingApp	SendPayment	100	1	1	0	0
BankingApp	SendPayment	100	1	2	0	0
BankingApp	SendPayment	100	1	5	0	0
BankingApp	SendPayment	100	1	10	0	0
BankingApp	SendPayment	200	1	1	0	0
BankingApp	SendPayment	200	1	2	0	0
BankingApp	SendPayment	200	1	5	0	0
BankingApp	SendPayment	200	1	10	0	0
BankingApp	SendPayment	400	1	1	0	0
BankingApp	SendPayment	400	1	2	0	0
BankingApp	SendPayment	400	1	5	0	0
BankingApp	SendPayment	400	1	10	0	0
BankingApp	SendPayment	50	50	1	12.23	14.59
BankingApp	SendPayment	50	50	2	12.73	14.3
BankingApp	SendPayment	50	50	5	12.73	14.56
BankingApp	SendPayment	50	50	10	13.17	14.49
BankingApp	SendPayment	100	50	1	7.41	14.47
BankingApp	SendPayment	100	50	2	7.46	14.85
BankingApp	SendPayment	100	50	5	15.2	13.79

BankingApp	SendPayment	100	50	10	5.79	14.5
BankingApp	SendPayment	200	50	1	35.33	20.49
BankingApp	SendPayment	200	50	2	34.48	21.86
BankingApp	SendPayment	200	50	5	35.14	21.06
<b>BankingApp</b>	<b>SendPayment</b>	<b>200</b>	<b>50</b>	<b>10</b>	<b>35.71</b>	<b>20.16</b>
BankingApp	SendPayment	400	50	1	0	0
BankingApp	SendPayment	400	50	2	0	0
BankingApp	SendPayment	400	50	5	0	0
BankingApp	SendPayment	400	50	10	0	0
BankingApp	SendPayment	50	100	1	13.36	24.54
BankingApp	SendPayment	50	100	2	14.75	25.44
BankingApp	SendPayment	50	100	5	16.32	25.39
BankingApp	SendPayment	50	100	10	15.29	25.9
BankingApp	SendPayment	100	100	1	8.34	27.16
BankingApp	SendPayment	100	100	2	8.22	27.45
BankingApp	SendPayment	100	100	5	9.11	28.99
BankingApp	SendPayment	100	100	10	8.53	28.18
BankingApp	SendPayment	200	100	1	0	0
BankingApp	SendPayment	200	100	2	0	0
BankingApp	SendPayment	200	100	5	0	0
BankingApp	SendPayment	200	100	10	0	0
BankingApp	SendPayment	400	100	1	0	0
BankingApp	SendPayment	400	100	2	0	0
BankingApp	SendPayment	400	100	5	0	0
BankingApp	SendPayment	400	100	10	0	0
BankingApp	Balance	50	1	1	0	0
BankingApp	Balance	50	1	2	0	0
BankingApp	Balance	50	1	5	0	0
BankingApp	Balance	50	1	10	0	0
BankingApp	Balance	100	1	1	0	0
BankingApp	Balance	100	1	2	0	0
BankingApp	Balance	100	1	5	0	0
BankingApp	Balance	100	1	10	0	0
BankingApp	Balance	200	1	1	0	0
BankingApp	Balance	200	1	2	0	0
BankingApp	Balance	200	1	5	0	0
BankingApp	Balance	200	1	10	0	0
BankingApp	Balance	400	1	1	0	0
BankingApp	Balance	400	1	2	0	0
BankingApp	Balance	400	1	5	0	0
BankingApp	Balance	400	1	10	0	0
BankingApp	Balance	50	50	1	29.71	11.32
BankingApp	Balance	50	50	2	19.54	11.59
BankingApp	Balance	50	50	5	41.48	11.29
BankingApp	Balance	50	50	10	32.21	11.84
BankingApp	Balance	100	50	1	50.67	10.39
BankingApp	Balance	100	50	2	52.07	10.18
BankingApp	Balance	100	50	5	51.52	10.31
BankingApp	Balance	100	50	10	52.01	10.38
BankingApp	Balance	200	50	1	0	0
BankingApp	Balance	200	50	2	0	0
BankingApp	Balance	200	50	5	0	0
BankingApp	Balance	200	50	10	0	0
BankingApp	Balance	400	50	1	46.18	30.29
BankingApp	Balance	400	50	2	0	0
BankingApp	Balance	400	50	5	44.57	26.95

BankingApp Balance	400	50	10	45.36	29.72
BankingApp Balance	50	100	1	30.75	12.3
BankingApp Balance	50	100	2	63.29	12.27
BankingApp Balance	50	100	5	46.8	12.18
BankingApp Balance	50	100	10	61.51	12.19
BankingApp Balance	100	100	1	72.56	15.26
BankingApp Balance	100	100	2	72.17	15.13
BankingApp Balance	100	100	5	72.03	15.77
<b>BankingApp Balance</b>	<b>100</b>	<b>100</b>	<b>10</b>	<b>73.25</b>	<b>15.13</b>
BankingApp Balance	200	100	1	66.67	17.92
BankingApp Balance	200	100	2	0	0
BankingApp Balance	200	100	5	0	0
BankingApp Balance	200	100	10	68	16.97
BankingApp Balance	400	100	1	0	0
BankingApp Balance	400	100	2	0	0
BankingApp Balance	400	100	5	0	0
BankingApp Balance	400	100	10	0	0

Table 1. Hyperledger Sawtooth - all values, full table

Benchmark Name	Parameters			Max TPS	Mean Latency
	RL	TXs in batch	PD		
DoNothing DoNothing	50	100	2	103.47	22.17
KeyValue Set	50	100	10	90.28	19.68
KeyValue Get	50	100	1	92.91	10.75
BankingApp CreateAccount	50	100	10	67.57	25.84
BankingApp SendPayment	200	50	10	35.71	20.16
BankingApp Balance	100	100	10	73.25	15.13

Table 2. Hyperledger Sawtooth - optimal values