
astar-All-2way Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	24005615139	[51.70%]
Cycles for writes	=	10994951788	[23.68%]
Cycles for inst	=	11433827185	[24.62%]
Total time	=	46434394112	

Average cycles per activity:

Read	=	9.42
Write	=	17.56
Inst	=	1.68

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11393817355	[100.00%]
Misses	=	497518	[0.00%]
Total	=	11394314873	
Kickouts	=	497262, Dirty kickouts = 0, Transfers = 497518	

Memory level: L1d

Hits	=	4261874755	[95.60%]
Misses	=	196297697	[4.40%]
Total	=	4458172452	
Kickouts	=	196297441, Dirty kickouts = 80765893, Transfers = 196297697	

Memory level: L2

Hits	=	160662256	[57.88%]
Misses	=	116898852	[42.12%]
Total	=	277561108	
Kickouts	=	116898340, Dirty kickouts = 59753876, Transfers = 116898852	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

astar-All-4way Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	23126240668	[50.79%]
Cycles for writes	=	11000753615	[24.16%]
Cycles for inst	=	11406716641	[25.05%]
Total time	=	45533710924	

Average cycles per activity:

Read	=	9.07
Write	=	17.56
Inst	=	1.67

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11394220237	[100.00%]
Misses	=	94636	[0.00%]
Total	=	11394314873	
Kickouts	=	94380, Dirty kickouts = 0, Transfers = 94636	

Memory level: L1d

Hits	=	4274666890	[95.88%]
Misses	=	183505562	[4.12%]
Total	=	4458172452	
Kickouts	=	183505306, Dirty kickouts = 75334151, Transfers = 183505562	

Memory level: L2

Hits	=	145435283	[56.17%]
Misses	=	113499066	[43.83%]
Total	=	258934349	
Kickouts	=	113498554, Dirty kickouts = 59270555, Transfers = 113499066	

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1425

astar-All-FA Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	18015408791	[45.63%]
Cycles for writes	=	10066753018	[25.50%]
Cycles for inst	=	11395359437	[28.87%]
Total time	=	39477521246	

Average cycles per activity:

Read	=	7.07
Write	=	16.07
Inst	=	1.67

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11394307253	[100.00%]
Misses	=	7620	[0.00%]
Total	=	11394314873	
Kickouts	=	7364, Dirty kickouts = 0, Transfers = 7620	

Memory level: L1d

Hits	=	4292364560	[96.28%]
Misses	=	165807892	[3.72%]
Total	=	4458172452	
Kickouts	=	165807636, Dirty kickouts = 71377025, Transfers = 165807892	

Memory level: L2

Hits	=	155431402	[65.53%]
Misses	=	81761135	[34.47%]
Total	=	237192537	
Kickouts	=	81760623, Dirty kickouts = 52330695, Transfers = 81761135	

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$75
Total cost	=	\$4175

astar-defaults Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	29021325420	[55.88%]
Cycles for writes	=	11433176077	[22.01%]
Cycles for inst	=	11480910007	[22.11%]
Total time	=	51935411504	

Average cycles per activity:

Read	=	11.38
Write	=	18.25
Inst	=	1.68

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11393011748	[99.99%]
Misses	=	1303125	[0.01%]
Total	=	11394314873	
Kickouts	=	1302869, Dirty kickouts = 0, Transfers = 1303125	

Memory level: L1d

Hits	=	4214841543	[94.54%]
Misses	=	243330909	[5.46%]
Total	=	4458172452	
Kickouts	=	243330653, Dirty kickouts = 94594555, Transfers = 243330909	

Memory level: L2

Hits	=	198286480	[58.45%]
Misses	=	140942109	[41.55%]
Total	=	339228589	
Kickouts	=	140941597, Dirty kickouts = 65799800, Transfers = 140942109	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$525

astar-L1-2way Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	26226244755	[53.48%]
Cycles for writes	=	11378938976	[23.20%]
Cycles for inst	=	11434789485	[23.32%]
Total time	=	49039973216	

Average cycles per activity:

Read	=	10.29
Write	=	18.17
Inst	=	1.68

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11393817355	[100.00%]
Misses	=	497518	[0.00%]
Total	=	11394314873	
Kickouts	=	497262, Dirty kickouts = 0, Transfers = 497518	

Memory level: L1d

Hits	=	4261874755	[95.60%]
Misses	=	196297697	[4.40%]
Total	=	4458172452	
Kickouts	=	196297441, Dirty kickouts = 80765893, Transfers = 196297697	

Memory level: L2

Hits	=	145387883	[52.38%]
Misses	=	132173225	[47.62%]
Total	=	277561108	
Kickouts	=	132172713, Dirty kickouts = 62217961, Transfers = 132173225	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$925

astar-Lld-small Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	33323479668	[58.95%]
Cycles for writes	=	11712805234	[20.72%]
Cycles for inst	=	11490462399	[20.33%]
Total time	=	56526747301	

Average cycles per activity:

Read	=	13.07
Write	=	18.70
Inst	=	1.68

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11393011748	[99.99%]
Misses	=	1303125	[0.01%]
Total	=	11394314873	

Kickouts = 1302869, Dirty kickouts = 0, Transfers = 1303125

Memory level: L1d

Hits	=	4001371773	[89.75%]
Misses	=	456800679	[10.25%]
Total	=	4458172452	

Kickouts = 456800551, Dirty kickouts = 179643008, Transfers = 456800679

Memory level: L2

Hits	=	501306381	[78.61%]
Misses	=	136440431	[21.39%]
Total	=	637746812	

Kickouts = 136439919, Dirty kickouts = 65580547, Transfers = 136440431

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

astar-Lli-small Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	29020269056	[55.80%]
Cycles for writes	=	11432412937	[21.98%]
Cycles for inst	=	11556905551	[22.22%]
Total time	=	52009587544	

Average cycles per activity:

Read	=	11.38
Write	=	18.25
Inst	=	1.69

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: Lli

Hits	=	11391567196	[99.98%]
Misses	=	2747677	[0.02%]
Total	=	11394314873	
Kickouts	=	2747549, Dirty kickouts = 0, Transfers = 2747677	

Memory level: Lld

Hits	=	4214841543	[94.54%]
Misses	=	243330909	[5.46%]
Total	=	4458172452	
Kickouts	=	243330653, Dirty kickouts = 94594555, Transfers = 243330909	

Memory level: L2

Hits	=	199425854	[58.54%]
Misses	=	141247287	[41.46%]
Total	=	340673141	
Kickouts	=	141246775, Dirty kickouts = 65821284, Transfers = 141247287	

Cost analysis:

Lli cache cost	=	\$100
Lld cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

astar-L1-small Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	33324211848	[58.87%]
Cycles for writes	=	11711340562	[20.69%]
Cycles for inst	=	11569088287	[20.44%]
Total time	=	56604640697	

Average cycles per activity:

Read	=	13.07
Write	=	18.70
Inst	=	1.70

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11391567196	[99.98%]
Misses	=	2747677	[0.02%]
Total	=	11394314873	
Kickouts	=	2747549, Dirty kickouts = 0, Transfers = 2747677	

Memory level: L1d

Hits	=	4001371773	[89.75%]
Misses	=	456800679	[10.25%]
Total	=	4458172452	
Kickouts	=	456800551, Dirty kickouts = 179643008, Transfers = 456800679	

Memory level: L2

Hits	=	502425148	[78.60%]
Misses	=	136766216	[21.40%]
Total	=	639191364	
Kickouts	=	136765704, Dirty kickouts = 65606799, Transfers = 136766216	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$325

astar-L2-4way Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	23250276263	[51.26%]
Cycles for writes	=	10673496632	[23.53%]
Cycles for inst	=	11432214125	[25.21%]
Total time	=	45355987020	

Average cycles per activity:

Read	=	9.12
Write	=	17.04
Inst	=	1.68

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11393817355	[100.00%]
Misses	=	497518	[0.00%]
Total	=	11394314873	
Kickouts	=	497262, Dirty kickouts = 0, Transfers = 497518	

Memory level: L1d

Hits	=	4261874755	[95.60%]
Misses	=	196297697	[4.40%]
Total	=	4458172452	
Kickouts	=	196297441, Dirty kickouts = 80765893, Transfers = 196297697	

Memory level: L2

Hits	=	167431165	[60.32%]
Misses	=	110129943	[39.68%]
Total	=	277561108	
Kickouts	=	110129431, Dirty kickouts = 59206672, Transfers = 110129943	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1025

astar-L2-Big Simulation Results

Number of reference types:

Number of reads	=	2549106849	[25.49%]
Number of writes	=	626305991	[6.26%]
Number of inst	=	6824587160	[68.25%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	21384221747	[49.84%]
Cycles for writes	=	10091200004	[23.52%]
Cycles for inst	=	11432956113	[26.65%]
Total time	=	42908377864	

Average cycles per activity:

Read	=	8.39
Write	=	16.11
Inst	=	1.68

Ideal: Exec. Time = 16824587160; CPI = 2.47

Ideal mis-aligned: Exec. Time = 23929686467; CPI = 3.51

Memory level: L1i

Hits	=	11393817355	[100.00%]
Misses	=	497518	[0.00%]
Total	=	11394314873	
Kickouts	=	497262, Dirty kickouts = 0, Transfers = 497518	

Memory level: L1d

Hits	=	4261874755	[95.60%]
Misses	=	196297697	[4.40%]
Total	=	4458172452	
Kickouts	=	196297441, Dirty kickouts = 80765893, Transfers = 196297697	

Memory level: L2

Hits	=	178580547	[64.34%]
Misses	=	98980561	[35.66%]
Total	=	277561108	
Kickouts	=	98979537, Dirty kickouts = 53510239, Transfers = 98980561	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

bzip2-All-2way Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	19599702681	[38.81%]
Cycles for writes	=	18932327356	[37.49%]
Cycles for inst	=	11967527423	[23.70%]
Total time	=	50499557460	

Average cycles per activity:

Read	=	10.46
Write	=	33.38
Inst	=	1.58

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11966585724	[100.00%]
Misses	=	7229	[0.00%]
Total	=	11966592953	

Kickouts = 6973, Dirty kickouts = 0, Transfers = 7229

Memory level: L1d

Hits	=	2376682331	[93.51%]
Misses	=	165045005	[6.49%]
Total	=	2541727336	

Kickouts = 165044749, Dirty kickouts = 70704191, Transfers = 165045005

Memory level: L2

Hits	=	81592046	[34.61%]
Misses	=	154164379	[65.39%]
Total	=	235756425	

Kickouts = 154163867, Dirty kickouts = 64299983, Transfers = 154164379

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

bzip2-All-4way Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	19276483134	[38.35%]
Cycles for writes	=	19026076053	[37.85%]
Cycles for inst	=	11967495747	[23.81%]
Total time	=	50270054934	

Average cycles per activity:

Read	=	10.28
Write	=	33.54
Inst	=	1.58

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11966585996	[100.00%]
Misses	=	6957	[0.00%]
Total	=	11966592953	
Kickouts	=	6701, Dirty kickouts = 0, Transfers = 6957	

Memory level: L1d

Hits	=	2378376456	[93.57%]
Misses	=	163350880	[6.43%]
Total	=	2541727336	
Kickouts	=	163350624, Dirty kickouts = 69948915, Transfers = 163350880	

Memory level: L2

Hits	=	79767974	[34.19%]
Misses	=	153538778	[65.81%]
Total	=	233306752	
Kickouts	=	153538266, Dirty kickouts = 63631592, Transfers = 153538778	

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1425

bzip2-All-FA Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	18285268745	[38.77%]
Cycles for writes	=	16911508909	[35.86%]
Cycles for inst	=	11967484275	[25.37%]
Total time	=	47164261929	

Average cycles per activity:

Read	=	9.76
Write	=	29.81
Inst	=	1.58

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11966586014	[100.00%]
Misses	=	6939	[0.00%]
Total	=	11966592953	
Kickouts	=	6683, Dirty kickouts = 0, Transfers = 6939	

Memory level: L1d

Hits	=	2379071440	[93.60%]
Misses	=	162655896	[6.40%]
Total	=	2541727336	
Kickouts	=	162655640, Dirty kickouts = 69711198, Transfers = 162655896	

Memory level: L2

Hits	=	99223380	[42.70%]
Misses	=	133150653	[57.30%]
Total	=	232374033	
Kickouts	=	133150141, Dirty kickouts = 63118740, Transfers = 133150653	

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$75
Total cost	=	\$4175

bzip2-defaults Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	21168923005	[40.97%]
Cycles for writes	=	18509292237	[35.82%]
Cycles for inst	=	11988306327	[23.20%]
Total time	=	51666521569	

Average cycles per activity:

Read	=	11.29
Write	=	32.63
Inst	=	1.59

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11965504642	[99.99%]
Misses	=	1088311	[0.01%]
Total	=	11966592953	
Kickouts	=	1088055, Dirty kickouts = 0, Transfers = 1088311	

Memory level: L1d

Hits	=	2360740266	[92.88%]
Misses	=	180987070	[7.12%]
Total	=	2541727336	
Kickouts	=	180986814, Dirty kickouts = 75658750, Transfers = 180987070	

Memory level: L2

Hits	=	100849192	[39.13%]
Misses	=	156884939	[60.87%]
Total	=	257734131	
Kickouts	=	156884427, Dirty kickouts = 66969105, Transfers = 156884939	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$525

bzip2-L1-2way Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	20290282521	[39.02%]
Cycles for writes	=	19745481896	[37.97%]
Cycles for inst	=	11967529611	[23.01%]
Total time	=	52003294028	

Average cycles per activity:

Read	=	10.82
Write	=	34.81
Inst	=	1.58

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11966585724	[100.00%]
Misses	=	7229	[0.00%]
Total	=	11966592953	
Kickouts	=	6973, Dirty kickouts = 0, Transfers = 7229	

Memory level: L1d

Hits	=	2376682331	[93.51%]
Misses	=	165045005	[6.49%]
Total	=	2541727336	
Kickouts	=	165044749, Dirty kickouts = 70704191, Transfers = 165045005	

Memory level: L2

Hits	=	72343025	[30.69%]
Misses	=	163413400	[69.31%]
Total	=	235756425	
Kickouts	=	163412888, Dirty kickouts = 65263422, Transfers = 163413400	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$925

bzip2-Lld-small Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	21179775524	[41.43%]
Cycles for writes	=	17952796895	[35.12%]
Cycles for inst	=	11988368687	[23.45%]
Total time	=	51120941106	

Average cycles per activity:

Read	=	11.30
Write	=	31.65
Inst	=	1.59

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11965504642	[99.99%]
Misses	=	1088311	[0.01%]
Total	=	11966592953	
Kickouts	=	1088055, Dirty kickouts = 0, Transfers = 1088311	

Memory level: L1d

Hits	=	2336029598	[91.91%]
Misses	=	205697738	[8.09%]
Total	=	2541727336	
Kickouts	=	205697610, Dirty kickouts = 84391651, Transfers = 205697738	

Memory level: L2

Hits	=	141441999	[48.58%]
Misses	=	149735701	[51.42%]
Total	=	291177700	
Kickouts	=	149735189, Dirty kickouts = 66392358, Transfers = 149735701	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

bzip2-L1i-small Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	21168887421	[40.97%]
Cycles for writes	=	18509339581	[35.82%]
Cycles for inst	=	11990304675	[23.21%]
Total time	=	51668531677	

Average cycles per activity:

Read	=	11.29
Write	=	32.63
Inst	=	1.59

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11965490130	[99.99%]
Misses	=	1102823	[0.01%]
Total	=	11966592953	
Kickouts	=	1102695, Dirty kickouts = 0, Transfers = 1102823	

Memory level: L1d

Hits	=	2360740266	[92.88%]
Misses	=	180987070	[7.12%]
Total	=	2541727336	
Kickouts	=	180986814, Dirty kickouts = 75658750, Transfers = 180987070	

Memory level: L2

Hits	=	100852695	[39.13%]
Misses	=	156895948	[60.87%]
Total	=	257748643	
Kickouts	=	156895436, Dirty kickouts = 66969959, Transfers = 156895948	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

bzip2-L1-small Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	21179555688	[41.43%]
Cycles for writes	=	17952916491	[35.12%]
Cycles for inst	=	11990524495	[23.45%]
Total time	=	51122996674	

Average cycles per activity:

Read	=	11.30
Write	=	31.65
Inst	=	1.59

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11965490130	[99.99%]
Misses	=	1102823	[0.01%]
Total	=	11966592953	
Kickouts	=	1102695, Dirty kickouts = 0, Transfers = 1102823	

Memory level: L1d

Hits	=	2336029598	[91.91%]
Misses	=	205697738	[8.09%]
Total	=	2541727336	
Kickouts	=	205697610, Dirty kickouts = 84391651, Transfers = 205697738	

Memory level: L2

Hits	=	141445647	[48.57%]
Misses	=	149746565	[51.43%]
Total	=	291192212	
Kickouts	=	149746053, Dirty kickouts = 66393690, Transfers = 149746565	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$325

bzip2-L2-4way Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	19218012465	[38.90%]
Cycles for writes	=	18215958176	[36.87%]
Cycles for inst	=	11967539859	[24.23%]
Total time	=	49401510500	

Average cycles per activity:

Read	=	10.25
Write	=	32.11
Inst	=	1.58

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11966585724	[100.00%]
Misses	=	7229	[0.00%]
Total	=	11966592953	
Kickouts	=	6973, Dirty kickouts = 0, Transfers = 7229	

Memory level: L1d

Hits	=	2376682331	[93.51%]
Misses	=	165045005	[6.49%]
Total	=	2541727336	
Kickouts	=	165044749, Dirty kickouts = 70704191, Transfers = 165045005	

Memory level: L2

Hits	=	88469976	[37.53%]
Misses	=	147286449	[62.47%]
Total	=	235756425	
Kickouts	=	147285937, Dirty kickouts = 63727745, Transfers = 147286449	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1025

bzip2-L2-Big Simulation Results

Number of reference types:

Number of reads	=	1874397115	[18.74%]
Number of writes	=	567216161	[5.67%]
Number of inst	=	7558386724	[75.58%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	18767801181	[38.28%]
Cycles for writes	=	18297521656	[37.32%]
Cycles for inst	=	11967513511	[24.41%]
Total time	=	49032836348	

Average cycles per activity:

Read	=	10.01
Write	=	32.26
Inst	=	1.58

Ideal: Exec. Time = 17558386724; CPI = 2.32

Ideal mis-aligned: Exec. Time = 23201139335; CPI = 3.07

Memory level: L1i

Hits	=	11966585724	[100.00%]
Misses	=	7229	[0.00%]
Total	=	11966592953	
Kickouts	=	6973, Dirty kickouts = 0, Transfers = 7229	

Memory level: L1d

Hits	=	2376682331	[93.51%]
Misses	=	165045005	[6.49%]
Total	=	2541727336	
Kickouts	=	165044749, Dirty kickouts = 70704191, Transfers = 165045005	

Memory level: L2

Hits	=	90203610	[38.26%]
Misses	=	145552815	[61.74%]
Total	=	235756425	
Kickouts	=	145551791, Dirty kickouts = 62927057, Transfers = 145552815	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

gobmk-All-2way Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	13195911623	[19.96%]
Cycles for writes	=	12253946255	[18.53%]
Cycles for inst	=	40671067195	[61.51%]
Total time	=	66120925073	

Average cycles per activity:

Read	=	6.86
Write	=	13.39
Inst	=	5.68

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11760551202	[96.61%]
Misses	=	412661231	[3.39%]
Total	=	12173212433	
Kickouts	=	412660975, Dirty kickouts = 0, Transfers = 412661231	

Memory level: L1d

Hits	=	3875982042	[96.13%]
Misses	=	155842197	[3.87%]
Total	=	4031824239	
Kickouts	=	155841941, Dirty kickouts = 95078017, Transfers = 155842197	

Memory level: L2

Hits	=	456124049	[68.74%]
Misses	=	207457396	[31.26%]
Total	=	663581445	
Kickouts	=	207456884, Dirty kickouts = 52591470, Transfers = 207457396	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

gobmk-All-4way Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	11145746026	[18.66%]
Cycles for writes	=	11639084956	[19.48%]
Cycles for inst	=	36957387613	[61.86%]
Total time	=	59742218595	

Average cycles per activity:

Read	=	5.80
Write	=	12.72
Inst	=	5.16

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11768803275	[96.68%]
Misses	=	404409158	[3.32%]
Total	=	12173212433	

Kickouts = 404408902, Dirty kickouts = 0, Transfers = 404409158

Memory level: L1d

Hits	=	3900603297	[96.75%]
Misses	=	131220942	[3.25%]
Total	=	4031824239	

Kickouts = 131220686, Dirty kickouts = 82611655, Transfers = 131220942

Memory level: L2

Hits	=	441968289	[71.49%]
Misses	=	176273466	[28.51%]
Total	=	618241755	

Kickouts = 176272954, Dirty kickouts = 45735493, Transfers = 176273466

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1425

gobmk-All-FA Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	10177636473	[18.76%]
Cycles for writes	=	11625209658	[21.43%]
Cycles for inst	=	32434837313	[59.80%]
Total time	=	54237683444	

Average cycles per activity:

Read	=	5.29
Write	=	12.70
Inst	=	4.53

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11768474955	[96.68%]
Misses	=	404737478	[3.32%]
Total	=	12173212433	

Kickouts = 404737222, Dirty kickouts = 0, Transfers = 404737478

Memory level: L1d

Hits	=	3914924730	[97.10%]
Misses	=	116899509	[2.90%]
Total	=	4031824239	

Kickouts = 116899253, Dirty kickouts = 74510782, Transfers = 116899509

Memory level: L2

Hits	=	449500040	[75.40%]
Misses	=	146647729	[24.60%]
Total	=	596147769	

Kickouts = 146647217, Dirty kickouts = 40518813, Transfers = 146647729

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$75
Total cost	=	\$4175

gobmk-defaults Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	19272524246	[24.88%]
Cycles for writes	=	14663275601	[18.93%]
Cycles for inst	=	43519641089	[56.19%]
Total time	=	77455440936	

Average cycles per activity:

Read	=	10.03
Write	=	16.02
Inst	=	6.08

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11735764313	[96.41%]
Misses	=	437448120	[3.59%]
Total	=	12173212433	

Kickouts = 437447864, Dirty kickouts = 0, Transfers = 437448120

Memory level: L1d

Hits	=	3818513808	[94.71%]
Misses	=	213310431	[5.29%]
Total	=	4031824239	

Kickouts = 213310175, Dirty kickouts = 118587278, Transfers = 213310431

Memory level: L2

Hits	=	512333089	[66.59%]
Misses	=	257012740	[33.41%]
Total	=	769345829	

Kickouts = 257012228, Dirty kickouts = 67734865, Transfers = 257012740

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$525

gobmk-L1-2way Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	15208682795	[21.29%]
Cycles for writes	=	13465048175	[18.85%]
Cycles for inst	=	42753772271	[59.86%]
Total time	=	71427503241	

Average cycles per activity:

Read	=	7.91
Write	=	14.71
Inst	=	5.97

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11760551202	[96.61%]
Misses	=	412661231	[3.39%]
Total	=	12173212433	
Kickouts	=	412660975, Dirty kickouts = 0, Transfers = 412661231	

Memory level: L1d

Hits	=	3875982042	[96.13%]
Misses	=	155842197	[3.87%]
Total	=	4031824239	
Kickouts	=	155841941, Dirty kickouts = 95078017, Transfers = 155842197	

Memory level: L2

Hits	=	425749513	[64.16%]
Misses	=	237831932	[35.84%]
Total	=	663581445	
Kickouts	=	237831420, Dirty kickouts = 58385376, Transfers = 237831932	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$925

gobmk-Lld-small Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	22086107086	[26.44%]
Cycles for writes	=	15349814889	[18.38%]
Cycles for inst	=	46086225153	[55.18%]
Total time	=	83522147128	

Average cycles per activity:

Read	=	11.49
Write	=	16.77
Inst	=	6.43

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11735764313	[96.41%]
Misses	=	437448120	[3.59%]
Total	=	12173212433	
Kickouts	=	437447864, Dirty kickouts = 0, Transfers = 437448120	

Memory level: L1d

Hits	=	3714997049	[92.14%]
Misses	=	316827190	[7.86%]
Total	=	4031824239	
Kickouts	=	316827062, Dirty kickouts = 163593096, Transfers = 316827190	

Memory level: L2

Hits	=	645196283	[70.29%]
Misses	=	272672123	[29.71%]
Total	=	917868406	
Kickouts	=	272671611, Dirty kickouts = 75739986, Transfers = 272672123	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

gobmk-Lli-small Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	19646223306	[23.91%]
Cycles for writes	=	14884871989	[18.12%]
Cycles for inst	=	47633738421	[57.97%]
Total time	=	82164833716	

Average cycles per activity:

Read	=	10.22
Write	=	16.26
Inst	=	6.65

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: Lli

Hits	=	11581007415	[95.14%]
Misses	=	592205018	[4.86%]
Total	=	12173212433	

Kickouts = 592204890, Dirty kickouts = 0, Transfers = 592205018

Memory level: Lld

Hits	=	3818513808	[94.71%]
Misses	=	213310431	[5.29%]
Total	=	4031824239	

Kickouts = 213310175, Dirty kickouts = 118587278, Transfers = 213310431

Memory level: L2

Hits	=	655508270	[70.93%]
Misses	=	268594457	[29.07%]
Total	=	924102727	

Kickouts = 268593945, Dirty kickouts = 69232540, Transfers = 268594457

Cost analysis:

Lli cache cost	=	\$100
Lld cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

gobmk-L1-small Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	22726847026	[25.47%]
Cycles for writes	=	15681654857	[17.57%]
Cycles for inst	=	50826690609	[56.96%]
Total time	=	89235192492	

Average cycles per activity:

Read	=	11.82
Write	=	17.13
Inst	=	7.10

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11581007415	[95.14%]
Misses	=	592205018	[4.86%]
Total	=	12173212433	

Kickouts = 592204890, Dirty kickouts = 0, Transfers = 592205018

Memory level: L1d

Hits	=	3714997049	[92.14%]
Misses	=	316827190	[7.86%]
Total	=	4031824239	

Kickouts = 316827062, Dirty kickouts = 163593096, Transfers = 316827190

Memory level: L2

Hits	=	782748031	[72.97%]
Misses	=	289877273	[27.03%]
Total	=	1072625304	

Kickouts = 289876761, Dirty kickouts = 78461836, Transfers = 289877273

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$325

gobmk-L2-4way Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	12081202027	[19.45%]
Cycles for writes	=	11808765751	[19.02%]
Cycles for inst	=	38209645975	[61.53%]
Total time	=	62099613753	

Average cycles per activity:

Read	=	6.28
Write	=	12.90
Inst	=	5.33

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11760551202	[96.61%]
Misses	=	412661231	[3.39%]
Total	=	12173212433	
Kickouts	=	412660975, Dirty kickouts = 0, Transfers = 412661231	

Memory level: L1d

Hits	=	3875982042	[96.13%]
Misses	=	155842197	[3.87%]
Total	=	4031824239	
Kickouts	=	155841941, Dirty kickouts = 95078017, Transfers = 155842197	

Memory level: L2

Hits	=	480211579	[72.37%]
Misses	=	183369866	[27.63%]
Total	=	663581445	
Kickouts	=	183369354, Dirty kickouts = 49331778, Transfers = 183369866	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1025

gobmk-L2-Big Simulation Results

Number of reference types:

Number of reads	=	1922316435	[19.22%]
Number of writes	=	915303047	[9.15%]
Number of inst	=	7162380518	[71.62%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	11418689099	[19.93%]
Cycles for writes	=	10604480439	[18.51%]
Cycles for inst	=	35258823739	[61.55%]
Total time	=	57281993277	

Average cycles per activity:

Read	=	5.94
Write	=	11.59
Inst	=	4.92

Ideal: Exec. Time = 17162380518; CPI = 2.4

Ideal mis-aligned: Exec. Time = 25198023284; CPI = 3.52

Memory level: L1i

Hits	=	11760551202	[96.61%]
Misses	=	412661231	[3.39%]
Total	=	12173212433	
Kickouts	=	412660975, Dirty kickouts = 0, Transfers = 412661231	

Memory level: L1d

Hits	=	3875982042	[96.13%]
Misses	=	155842197	[3.87%]
Total	=	4031824239	
Kickouts	=	155841941, Dirty kickouts = 95078017, Transfers = 155842197	

Memory level: L2

Hits	=	502768376	[75.77%]
Misses	=	160813069	[24.23%]
Total	=	663581445	
Kickouts	=	160812045, Dirty kickouts = 38765960, Transfers = 160813069	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

omnetpp-All-2way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	33880472608	[44.87%]
Cycles for writes	=	7825980824	[10.37%]
Cycles for inst	=	33797017651	[44.76%]
Total time	=	75503471083	

Average cycles per activity:

Read	=	16.86
Write	=	6.32
Inst	=	5.00

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	453267900	[64.44%]
Misses	=	250138789	[35.56%]
Total	=	703406689	
Kickouts	=	250138277, Dirty kickouts = 60980869, Transfers = 250138789	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

omnetpp-All-4way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	29445020301	[45.56%]
Cycles for writes	=	7075879230	[10.95%]
Cycles for inst	=	28104895749	[43.49%]
Total time	=	64625795280	

Average cycles per activity:

Read	=	14.65
Write	=	5.72
Inst	=	4.16

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11176886229	[97.52%]
Misses	=	284359860	[2.48%]
Total	=	11461246089	
Kickouts	=	284359604, Dirty kickouts = 0, Transfers = 284359860	

Memory level: L1d

Hits	=	5710864475	[96.32%]
Misses	=	218027141	[3.68%]
Total	=	5928891616	
Kickouts	=	218026885, Dirty kickouts = 85447461, Transfers = 218027141	

Memory level: L2

Hits	=	387962332	[66.00%]
Misses	=	199872130	[34.00%]
Total	=	587834462	
Kickouts	=	199871618, Dirty kickouts = 51135782, Transfers = 199872130	

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1425

omnetpp-All-FA Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	25157269567	[45.28%]
Cycles for writes	=	6585593574	[11.85%]
Cycles for inst	=	23816702881	[42.87%]
Total time	=	55559566022	

Average cycles per activity:

Read	=	12.52
Write	=	5.32
Inst	=	3.53

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11259288301	[98.24%]
Misses	=	201957788	[1.76%]
Total	=	11461246089	
Kickouts	=	201957532, Dirty kickouts = 0, Transfers = 201957788	

Memory level: L1d

Hits	=	5753056729	[97.03%]
Misses	=	175834887	[2.97%]
Total	=	5928891616	
Kickouts	=	175834631, Dirty kickouts = 72136579, Transfers = 175834887	

Memory level: L2

Hits	=	288582036	[64.14%]
Misses	=	161347218	[35.86%]
Total	=	449929254	
Kickouts	=	161346706, Dirty kickouts = 44738929, Transfers = 161347218	

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$75
Total cost	=	\$4175

omnetpp-defaults Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	44619155042	[45.99%]
Cycles for writes	=	10153638624	[10.47%]
Cycles for inst	=	42244697827	[43.54%]
Total time	=	97017491493	

Average cycles per activity:

Read	=	22.21
Write	=	8.20
Inst	=	6.26

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11006133158	[96.03%]
Misses	=	455112931	[3.97%]
Total	=	11461246089	
Kickouts	=	455112675, Dirty kickouts = 0, Transfers = 455112931	

Memory level: L1d

Hits	=	5562301532	[93.82%]
Misses	=	366590084	[6.18%]
Total	=	5928891616	
Kickouts	=	366589828, Dirty kickouts = 162590750, Transfers = 366590084	

Memory level: L2

Hits	=	643964024	[65.42%]
Misses	=	340329741	[34.58%]
Total	=	984293765	
Kickouts	=	340329229, Dirty kickouts = 83598965, Transfers = 340329741	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$525

omnetpp-L1-2way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	37014442624	[45.16%]
Cycles for writes	=	8446268860	[10.30%]
Cycles for inst	=	36503963575	[44.54%]
Total time	=	81964675059	

Average cycles per activity:

Read	=	18.42
Write	=	6.82
Inst	=	5.41

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	414993528	[59.00%]
Misses	=	288413161	[41.00%]
Total	=	703406689	
Kickouts	=	288412649, Dirty kickouts = 66670847, Transfers = 288413161	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$925

omnetpp-Lld-small Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	49070242502	[46.99%]
Cycles for writes	=	10633561033	[10.18%]
Cycles for inst	=	44716782979	[42.82%]
Total time	=	104420586514	

Average cycles per activity:

Read	=	24.42
Write	=	8.59
Inst	=	6.62

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11006133158	[96.03%]
Misses	=	455112931	[3.97%]
Total	=	11461246089	
Kickouts	=	455112675, Dirty kickouts = 0, Transfers = 455112931	

Memory level: L1d

Hits	=	5423480899	[91.48%]
Misses	=	505410717	[8.52%]
Total	=	5928891616	
Kickouts	=	505410589, Dirty kickouts = 217210609, Transfers = 505410717	

Memory level: L2

Hits	=	814325803	[69.14%]
Misses	=	363408454	[30.86%]
Total	=	1177734257	
Kickouts	=	363407942, Dirty kickouts = 87599940, Transfers = 363408454	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

omnetpp-Lli-small Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	45635285370	[43.31%]
Cycles for writes	=	10298001452	[9.77%]
Cycles for inst	=	49440921283	[46.92%]
Total time	=	105374208105	

Average cycles per activity:

Read	=	22.71
Write	=	8.32
Inst	=	7.32

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	10791448034	[94.16%]
Misses	=	669798055	[5.84%]
Total	=	11461246089	
Kickouts	=	669797927, Dirty kickouts = 0, Transfers = 669798055	

Memory level: L1d

Hits	=	5562301532	[93.82%]
Misses	=	366590084	[6.18%]
Total	=	5928891616	
Kickouts	=	366589828, Dirty kickouts = 162590750, Transfers = 366590084	

Memory level: L2

Hits	=	830511583	[69.27%]
Misses	=	368467306	[30.73%]
Total	=	1198978889	
Kickouts	=	368466794, Dirty kickouts = 85941999, Transfers = 368467306	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

omnetpp-L1-small Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	50670291246	[44.33%]
Cycles for writes	=	10804636869	[9.45%]
Cycles for inst	=	52822645763	[46.22%]
Total time	=	114297573878	

Average cycles per activity:

Read	=	25.22
Write	=	8.73
Inst	=	7.82

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	10791448034	[94.16%]
Misses	=	669798055	[5.84%]
Total	=	11461246089	
Kickouts	=	669797927, Dirty kickouts = 0, Transfers = 669798055	

Memory level: L1d

Hits	=	5423480899	[91.48%]
Misses	=	505410717	[8.52%]
Total	=	5928891616	
Kickouts	=	505410589, Dirty kickouts = 217210609, Transfers = 505410717	

Memory level: L2

Hits	=	992116313	[71.25%]
Misses	=	400303068	[28.75%]
Total	=	1392419381	
Kickouts	=	400302556, Dirty kickouts = 91544599, Transfers = 400303068	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$325

omnetpp-L2-4way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	31083510424	[44.76%]
Cycles for writes	=	7466023388	[10.75%]
Cycles for inst	=	30888515511	[44.48%]
Total time	=	69438049323	

Average cycles per activity:

Read	=	15.47
Write	=	6.03
Inst	=	4.57

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	488279575	[69.42%]
Misses	=	215127114	[30.58%]
Total	=	703406689	
Kickouts	=	215126602, Dirty kickouts = 54668770, Transfers = 215127114	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1025

omnetpp-L2-Big Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	29092369548	[44.19%]
Cycles for writes	=	6988619336	[10.62%]
Cycles for inst	=	29748059303	[45.19%]
Total time	=	65829048187	

Average cycles per activity:

Read	=	14.48
Write	=	5.65
Inst	=	4.41

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	508143677	[72.24%]
Misses	=	195263012	[27.76%]
Total	=	703406689	
Kickouts	=	195261988, Dirty kickouts = 49889384, Transfers = 195263012	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

omnetpp-mem32_All-2way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	27089750968	[42.96%]
Cycles for writes	=	6607499064	[10.48%]
Cycles for inst	=	29361434731	[46.56%]
Total time	=	63058684763	

Average cycles per activity:

Read	=	13.48
Write	=	5.34
Inst	=	9.34

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	

Kickouts = 338099867, Dirty kickouts = 0, Transfers = 338100123

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	

Kickouts = 259456854, Dirty kickouts = 105849456, Transfers = 259457110

Memory level: L2

Hits	=	453267900	[64.44%]
Misses	=	250138789	[35.56%]
Total	=	703406689	

Kickouts = 250138277, Dirty kickouts = 60980869, Transfers = 250138789

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$175
Total cost	=	\$1075

omnetpp-mem32_All-4way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	23619135621	[43.27%]
Cycles for writes	=	6009677710	[11.01%]
Cycles for inst	=	24956665469	[45.72%]
Total time	=	54585478800	

Average cycles per activity:

Read	=	11.75
Write	=	4.85
Inst	=	8.08

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11176886229	[97.52%]
Misses	=	284359860	[2.48%]
Total	=	11461246089	
Kickouts	=	284359604, Dirty kickouts = 0, Transfers = 284359860	

Memory level: L1d

Hits	=	5710864475	[96.32%]
Misses	=	218027141	[3.68%]
Total	=	5928891616	
Kickouts	=	218026885, Dirty kickouts = 85447461, Transfers = 218027141	

Memory level: L2

Hits	=	387962332	[66.00%]
Misses	=	199872130	[34.00%]
Total	=	587834462	
Kickouts	=	199871618, Dirty kickouts = 51135782, Transfers = 199872130	

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$175
Total cost	=	\$1525

omnetpp-mem32_All-FA Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	20246411607	[42.79%]
Cycles for writes	=	5637317334	[11.91%]
Cycles for inst	=	21432391201	[45.30%]
Total time	=	47316120142	

Average cycles per activity:

Read	=	10.08
Write	=	4.55
Inst	=	7.01

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11259288301	[98.24%]
Misses	=	201957788	[1.76%]
Total	=	11461246089	

Kickouts = 201957532, Dirty kickouts = 0, Transfers = 201957788

Memory level: L1d

Hits	=	5753056729	[97.03%]
Misses	=	175834887	[2.97%]
Total	=	5928891616	

Kickouts = 175834631, Dirty kickouts = 72136579, Transfers = 175834887

Memory level: L2

Hits	=	288582036	[64.14%]
Misses	=	161347218	[35.86%]
Total	=	449929254	

Kickouts = 161346706, Dirty kickouts = 44738929, Transfers = 161347218

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$175
Total cost	=	\$4275

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	35537444002	[44.39%]
Cycles for writes	=	8428762424	[10.53%]
Cycles for inst	=	36094136827	[45.08%]
Total time	=	80060343253	

Average cycles per activity:

Read	=	17.69
Write	=	6.81
Inst	=	11.86

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11006133158	[96.03%]
Misses	=	455112931	[3.97%]
Total	=	11461246089	
Kickouts	=	455112675, Dirty kickouts = 0, Transfers = 455112931	

Memory level: L1d

Hits	=	5562301532	[93.82%]
Misses	=	366590084	[6.18%]
Total	=	5928891616	
Kickouts	=	366589828, Dirty kickouts = 162590750, Transfers = 366590084	

Memory level: L2

Hits	=	643964024	[65.42%]
Misses	=	340329741	[34.58%]
Total	=	984293765	
Kickouts	=	340329229, Dirty kickouts = 83598965, Transfers = 340329741	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$175
Total cost	=	\$625

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	29365411704	[43.34%]
Cycles for writes	=	7057798820	[10.42%]
Cycles for inst	=	31338104215	[46.25%]
Total time	=	67761314739	

Average cycles per activity:

Read	=	14.61
Write	=	5.70
Inst	=	10.03

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	414993528	[59.00%]
Misses	=	288413161	[41.00%]
Total	=	703406689	
Kickouts	=	288412649, Dirty kickouts = 66670847, Transfers = 288413161	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$175
Total cost	=	\$1025

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	39565087742	[45.80%]
Cycles for writes	=	8930456313	[10.34%]
Cycles for inst	=	37884706699	[43.86%]
Total time	=	86380250754	

Average cycles per activity:

Read	=	19.69
Write	=	7.21
Inst	=	12.79

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11006133158	[96.03%]
Misses	=	455112931	[3.97%]
Total	=	11461246089	
Kickouts	=	455112675, Dirty kickouts = 0, Transfers = 455112931	

Memory level: L1d

Hits	=	5423480899	[91.48%]
Misses	=	505410717	[8.52%]
Total	=	5928891616	
Kickouts	=	505410589, Dirty kickouts = 217210609, Transfers = 505410717	

Memory level: L2

Hits	=	814325803	[69.14%]
Misses	=	363408454	[30.86%]
Total	=	1177734257	
Kickouts	=	363407942, Dirty kickouts = 87599940, Transfers = 363408454	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$175
Total cost	=	\$525

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	36281944810	[41.61%]
Cycles for writes	=	8534545052	[9.79%]
Cycles for inst	=	42381346043	[48.60%]
Total time	=	87197835905	

Average cycles per activity:

Read	=	18.06
Write	=	6.89
Inst	=	12.91

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	10791448034	[94.16%]
Misses	=	669798055	[5.84%]
Total	=	11461246089	

Kickouts = 669797927, Dirty kickouts = 0, Transfers = 669798055

Memory level: L1d

Hits	=	5562301532	[93.82%]
Misses	=	366590084	[6.18%]
Total	=	5928891616	

Kickouts = 366589828, Dirty kickouts = 162590750, Transfers = 366590084

Memory level: L2

Hits	=	830511583	[69.27%]
Misses	=	368467306	[30.73%]
Total	=	1198978889	

Kickouts = 368466794, Dirty kickouts = 85941999, Transfers = 368467306

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$175
Total cost	=	\$525

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	40736192566	[43.05%]
Cycles for writes	=	9055787789	[9.57%]
Cycles for inst	=	44831686843	[47.38%]
Total time	=	94623667198	

Average cycles per activity:

Read	=	20.27
Write	=	7.32
Inst	=	14.01

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	10791448034	[94.16%]
Misses	=	669798055	[5.84%]
Total	=	11461246089	

Kickouts = 669797927, Dirty kickouts = 0, Transfers = 669798055

Memory level: L1d

Hits	=	5423480899	[91.48%]
Misses	=	505410717	[8.52%]
Total	=	5928891616	

Kickouts = 505410589, Dirty kickouts = 217210609, Transfers = 505410717

Memory level: L2

Hits	=	992116313	[71.25%]
Misses	=	400303068	[28.75%]
Total	=	1392419381	

Kickouts = 400302556, Dirty kickouts = 91544599, Transfers = 400303068

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$175
Total cost	=	\$425

omnetpp-mem32_L2-4way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	25056751184	[42.73%]
Cycles for writes	=	6345933748	[10.82%]
Cycles for inst	=	27243529031	[46.45%]
Total time	=	58646213963	

Average cycles per activity:

Read	=	12.47
Write	=	5.13
Inst	=	8.68

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	

Kickouts = 338099867, Dirty kickouts = 0, Transfers = 338100123

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	

Kickouts = 259456854, Dirty kickouts = 105849456, Transfers = 259457110

Memory level: L2

Hits	=	488279575	[69.42%]
Misses	=	215127114	[30.58%]
Total	=	703406689	

Kickouts = 215126602, Dirty kickouts = 54668770, Transfers = 215127114

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$175
Total cost	=	\$1125

omnetpp-mem32_L2-Big Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	23606286108	[42.14%]
Cycles for writes	=	5998933416	[10.71%]
Cycles for inst	=	26417732823	[47.16%]
Total time	=	56022952347	

Average cycles per activity:

Read	=	11.75
Write	=	4.85
Inst	=	8.30

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	508143677	[72.24%]
Misses	=	195263012	[27.76%]
Total	=	703406689	
Kickouts	=	195261988, Dirty kickouts = 49889384, Transfers = 195263012	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$175
Total cost	=	\$1075

omnetpp-mem64_All-2way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	23694390148	[41.69%]
Cycles for writes	=	5998258184	[10.55%]
Cycles for inst	=	27143643271	[47.76%]
Total time	=	56836291603	

Average cycles per activity:

Read	=	11.79
Write	=	4.85
Inst	=	8.42

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	453267900	[64.44%]
Misses	=	250138789	[35.56%]
Total	=	703406689	
Kickouts	=	250138277, Dirty kickouts = 60980869, Transfers = 250138789	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$275
Total cost	=	\$1175

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	20706193281	[41.78%]
Cycles for writes	=	5476576950	[11.05%]
Cycles for inst	=	23382550329	[47.18%]
Total time	=	49565320560	

Average cycles per activity:

Read	=	10.31
Write	=	4.42
Inst	=	7.34

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11176886229	[97.52%]
Misses	=	284359860	[2.48%]
Total	=	11461246089	
Kickouts	=	284359604, Dirty kickouts = 0, Transfers = 284359860	

Memory level: L1d

Hits	=	5710864475	[96.32%]
Misses	=	218027141	[3.68%]
Total	=	5928891616	
Kickouts	=	218026885, Dirty kickouts = 85447461, Transfers = 218027141	

Memory level: L2

Hits	=	387962332	[66.00%]
Misses	=	199872130	[34.00%]
Total	=	587834462	
Kickouts	=	199871618, Dirty kickouts = 51135782, Transfers = 199872130	

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$275
Total cost	=	\$1625

omnetpp-mem64_All-FA Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	17790982627	[41.19%]
Cycles for writes	=	5163179214	[11.95%]
Cycles for inst	=	20240235361	[46.86%]
Total time	=	43194397202	

Average cycles per activity:

Read	=	8.85
Write	=	4.17
Inst	=	6.40

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11259288301	[98.24%]
Misses	=	201957788	[1.76%]
Total	=	11461246089	

Kickouts = 201957532, Dirty kickouts = 0, Transfers = 201957788

Memory level: L1d

Hits	=	5753056729	[97.03%]
Misses	=	175834887	[2.97%]
Total	=	5928891616	

Kickouts = 175834631, Dirty kickouts = 72136579, Transfers = 175834887

Memory level: L2

Hits	=	288582036	[64.14%]
Misses	=	161347218	[35.86%]
Total	=	449929254	

Kickouts = 161346706, Dirty kickouts = 44738929, Transfers = 161347218

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$275
Total cost	=	\$4375

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	30996588482	[43.30%]
Cycles for writes	=	7566324324	[10.57%]
Cycles for inst	=	33018856327	[46.13%]
Total time	=	71581769133	

Average cycles per activity:

Read	=	15.43
Write	=	6.11
Inst	=	10.60

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11006133158	[96.03%]
Misses	=	455112931	[3.97%]
Total	=	11461246089	
Kickouts	=	455112675, Dirty kickouts = 0, Transfers = 455112931	

Memory level: L1d

Hits	=	5562301532	[93.82%]
Misses	=	366590084	[6.18%]
Total	=	5928891616	
Kickouts	=	366589828, Dirty kickouts = 162590750, Transfers = 366590084	

Memory level: L2

Hits	=	643964024	[65.42%]
Misses	=	340329741	[34.58%]
Total	=	984293765	
Kickouts	=	340329229, Dirty kickouts = 83598965, Transfers = 340329741	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$275
Total cost	=	\$725

omnetpp-mem64_L1-2way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	25540896244	[42.11%]
Cycles for writes	=	6363563800	[10.49%]
Cycles for inst	=	28755174535	[47.40%]
Total time	=	60659634579	

Average cycles per activity:

Read	=	12.71
Write	=	5.14
Inst	=	8.98

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	414993528	[59.00%]
Misses	=	288413161	[41.00%]
Total	=	703406689	
Kickouts	=	288412649, Dirty kickouts = 66670847, Transfers = 288413161	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$275
Total cost	=	\$1125

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	34812510362	[45.00%]
Cycles for writes	=	8078903953	[10.44%]
Cycles for inst	=	34468668559	[44.56%]
Total time	=	77360082874	

Average cycles per activity:

Read	=	17.33
Write	=	6.53
Inst	=	11.46

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11006133158	[96.03%]
Misses	=	455112931	[3.97%]
Total	=	11461246089	
Kickouts	=	455112675, Dirty kickouts = 0, Transfers = 455112931	

Memory level: L1d

Hits	=	5423480899	[91.48%]
Misses	=	505410717	[8.52%]
Total	=	5928891616	
Kickouts	=	505410589, Dirty kickouts = 217210609, Transfers = 505410717	

Memory level: L2

Hits	=	814325803	[69.14%]
Misses	=	363408454	[30.86%]
Total	=	1177734257	
Kickouts	=	363407942, Dirty kickouts = 87599940, Transfers = 363408454	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$275
Total cost	=	\$625

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	31605274530	[40.46%]
Cycles for writes	=	7652816852	[9.80%]
Cycles for inst	=	38851558423	[49.74%]
Total time	=	78109649805	

Average cycles per activity:

Read	=	15.73
Write	=	6.18
Inst	=	11.57

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	10791448034	[94.16%]
Misses	=	669798055	[5.84%]
Total	=	11461246089	

Kickouts = 669797927, Dirty kickouts = 0, Transfers = 669798055

Memory level: L1d

Hits	=	5562301532	[93.82%]
Misses	=	366590084	[6.18%]
Total	=	5928891616	

Kickouts = 366589828, Dirty kickouts = 162590750, Transfers = 366590084

Memory level: L2

Hits	=	830511583	[69.27%]
Misses	=	368467306	[30.73%]
Total	=	1198978889	

Kickouts = 368466794, Dirty kickouts = 85941999, Transfers = 368467306

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$275
Total cost	=	\$625

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	35769143226	[42.19%]
Cycles for writes	=	8181363249	[9.65%]
Cycles for inst	=	40836207383	[48.16%]
Total time	=	84786713858	

Average cycles per activity:

Read	=	17.80
Write	=	6.61
Inst	=	12.56

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	10791448034	[94.16%]
Misses	=	669798055	[5.84%]
Total	=	11461246089	

Kickouts = 669797927, Dirty kickouts = 0, Transfers = 669798055

Memory level: L1d

Hits	=	5423480899	[91.48%]
Misses	=	505410717	[8.52%]
Total	=	5928891616	

Kickouts = 505410589, Dirty kickouts = 217210609, Transfers = 505410717

Memory level: L2

Hits	=	992116313	[71.25%]
Misses	=	400303068	[28.75%]
Total	=	1392419381	

Kickouts = 400302556, Dirty kickouts = 91544599, Transfers = 400303068

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$275
Total cost	=	\$525

omnetpp-mem64_L2-4way Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	22043371564	[41.40%]
Cycles for writes	=	5785888928	[10.87%]
Cycles for inst	=	25421035791	[47.74%]
Total time	=	53250296283	

Average cycles per activity:

Read	=	10.97
Write	=	4.67
Inst	=	7.89

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	488279575	[69.42%]
Misses	=	215127114	[30.58%]
Total	=	703406689	
Kickouts	=	215126602, Dirty kickouts = 54668770, Transfers = 215127114	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$275
Total cost	=	\$1225

omnetpp-mem64_L2-Big Simulation Results

Number of reference types:

Number of reads	=	2009285423	[20.09%]
Number of writes	=	1237898222	[12.38%]
Number of inst	=	6752816355	[67.53%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	20863244388	[40.81%]
Cycles for writes	=	5504090456	[10.77%]
Cycles for inst	=	24752569583	[48.42%]
Total time	=	51119904427	

Average cycles per activity:

Read	=	10.38
Write	=	4.45
Inst	=	7.57

Ideal: Exec. Time = 16752816355; CPI = 2.48

Ideal mis-aligned: Exec. Time = 26618750504; CPI = 3.94

Memory level: L1i

Hits	=	11123145966	[97.05%]
Misses	=	338100123	[2.95%]
Total	=	11461246089	
Kickouts	=	338099867, Dirty kickouts = 0, Transfers = 338100123	

Memory level: L1d

Hits	=	5669434506	[95.62%]
Misses	=	259457110	[4.38%]
Total	=	5928891616	
Kickouts	=	259456854, Dirty kickouts = 105849456, Transfers = 259457110	

Memory level: L2

Hits	=	508143677	[72.24%]
Misses	=	195263012	[27.76%]
Total	=	703406689	
Kickouts	=	195261988, Dirty kickouts = 49889384, Transfers = 195263012	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$275
Total cost	=	\$1175

sjeng-All-2way Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	9520499188	[22.14%]
Cycles for writes	=	9174094220	[21.34%]
Cycles for inst	=	24301290801	[56.52%]
Total time	=	42995884209	

Average cycles per activity:

Read	=	5.03
Write	=	12.21
Inst	=	3.30

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12325337739	[98.25%]
Misses	=	219027066	[1.75%]
Total	=	12544364805	
Kickouts	=	219026810, Dirty kickouts = 0, Transfers = 219027066	

Memory level: L1d

Hits	=	3258299627	[96.14%]
Misses	=	130955656	[3.86%]
Total	=	3389255283	
Kickouts	=	130955400, Dirty kickouts = 68155533, Transfers = 130955656	

Memory level: L2

Hits	=	315765967	[75.52%]
Misses	=	102372288	[24.48%]
Total	=	418138255	
Kickouts	=	102371776, Dirty kickouts = 31805946, Transfers = 102372288	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975

sjeng-All-4way Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	8636165396	[21.92%]
Cycles for writes	=	8263103150	[20.97%]
Cycles for inst	=	22497704605	[57.11%]
Total time	=	39396973151	

Average cycles per activity:

Read	=	4.56
Write	=	10.99
Inst	=	3.06

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12328177413	[98.28%]
Misses	=	216187392	[1.72%]
Total	=	12544364805	

Kickouts = 216187136, Dirty kickouts = 0, Transfers = 216187392

Memory level: L1d

Hits	=	3282438507	[96.85%]
Misses	=	106816776	[3.15%]
Total	=	3389255283	

Kickouts = 106816520, Dirty kickouts = 58561243, Transfers = 106816776

Memory level: L2

Hits	=	296123400	[77.61%]
Misses	=	85442011	[22.39%]
Total	=	381565411	

Kickouts = 85441499, Dirty kickouts = 28630852, Transfers = 85442011

Cost analysis:

L1i cache cost	=	\$600
L1d cache cost	=	\$600
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1425

sjeng-All-FA Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	6396180212	[18.97%]
Cycles for writes	=	7411519539	[21.98%]
Cycles for inst	=	19917359973	[59.06%]
Total time	=	33725059724	

Average cycles per activity:

Read	=	3.38
Write	=	9.86
Inst	=	2.71

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12299225417	[98.05%]
Misses	=	245139388	[1.95%]
Total	=	12544364805	

Kickouts = 245139132, Dirty kickouts = 0, Transfers = 245139388

Memory level: L1d

Hits	=	3309920012	[97.66%]
Misses	=	79335271	[2.34%]
Total	=	3389255283	

Kickouts = 79335015, Dirty kickouts = 50696226, Transfers = 79335271

Memory level: L2

Hits	=	321413336	[85.67%]
Misses	=	53757549	[14.33%]
Total	=	375170885	

Kickouts = 53757037, Dirty kickouts = 22378162, Transfers = 53757549

Cost analysis:

L1i cache cost	=	\$1800
L1d cache cost	=	\$1800
L2 cache cost	=	\$500
Memory cost	=	\$75
Total cost	=	\$4175

sjeng-defaults Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	14199767107	[27.61%]
Cycles for writes	=	9870999338	[19.20%]
Cycles for inst	=	27353035169	[53.19%]
Total time	=	51423801614	

Average cycles per activity:

Read	=	7.50
Write	=	13.13
Inst	=	3.72

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12312377087	[98.15%]
Misses	=	231987718	[1.85%]
Total	=	12544364805	

Kickouts = 231987462, Dirty kickouts = 0, Transfers = 231987718

Memory level: L1d

Hits	=	3191666517	[94.17%]
Misses	=	197588766	[5.83%]
Total	=	3389255283	

Kickouts = 197588510, Dirty kickouts = 89091858, Transfers = 197588766

Memory level: L2

Hits	=	377266166	[72.74%]
Misses	=	141402176	[27.26%]
Total	=	518668342	

Kickouts = 141401664, Dirty kickouts = 37969437, Transfers = 141402176

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$525

sjeng-L1-2way Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	11021885908	[23.81%]
Cycles for writes	=	9401105392	[20.31%]
Cycles for inst	=	25870705805	[55.88%]
Total time	=	46293697105	

Average cycles per activity:

Read	=	5.82
Write	=	12.51
Inst	=	3.52

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12325337739	[98.25%]
Misses	=	219027066	[1.75%]
Total	=	12544364805	
Kickouts	=	219026810, Dirty kickouts = 0, Transfers = 219027066	

Memory level: L1d

Hits	=	3258299627	[96.14%]
Misses	=	130955656	[3.86%]
Total	=	3389255283	
Kickouts	=	130955400, Dirty kickouts = 68155533, Transfers = 130955656	

Memory level: L2

Hits	=	295456405	[70.66%]
Misses	=	122681850	[29.34%]
Total	=	418138255	
Kickouts	=	122681338, Dirty kickouts = 33891644, Transfers = 122681850	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$925

sjeng-Lld-small Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	18132505667	[31.74%]
Cycles for writes	=	10391215163	[18.19%]
Cycles for inst	=	28612202985	[50.08%]
Total time	=	57135923815	

Average cycles per activity:

Read	=	9.58
Write	=	13.82
Inst	=	3.89

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12312377087	[98.15%]
Misses	=	231987718	[1.85%]
Total	=	12544364805	
Kickouts	=	231987462, Dirty kickouts = 0, Transfers = 231987718	

Memory level: L1d

Hits	=	3056012220	[90.17%]
Misses	=	333243063	[9.83%]
Total	=	3389255283	
Kickouts	=	333242935, Dirty kickouts = 135165653, Transfers = 333243063	

Memory level: L2

Hits	=	545066603	[77.82%]
Misses	=	155329831	[22.18%]
Total	=	700396434	
Kickouts	=	155329319, Dirty kickouts = 41010847, Transfers = 155329831	

Cost analysis:

L1i cache cost	=	\$200
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

sjeng-Lli-small Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	14970807155	[26.79%]
Cycles for writes	=	9933734882	[17.77%]
Cycles for inst	=	30981863599	[55.44%]
Total time	=	55886405636	

Average cycles per activity:

Read	=	7.91
Write	=	13.22
Inst	=	4.21

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12181186946	[97.10%]
Misses	=	363177859	[2.90%]
Total	=	12544364805	
Kickouts	=	363177731, Dirty kickouts = 0, Transfers = 363177859	

Memory level: L1d

Hits	=	3191666517	[94.17%]
Misses	=	197588766	[5.83%]
Total	=	3389255283	
Kickouts	=	197588510, Dirty kickouts = 89091858, Transfers = 197588766	

Memory level: L2

Hits	=	495160049	[76.20%]
Misses	=	154698434	[23.80%]
Total	=	649858483	
Kickouts	=	154697922, Dirty kickouts = 38921832, Transfers = 154698434	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$200
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$425

sjeng-L1-small Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	19225396703	[30.76%]
Cycles for writes	=	10510471755	[16.82%]
Cycles for inst	=	32761006671	[52.42%]
Total time	=	62496875129	

Average cycles per activity:

Read	=	10.16
Write	=	13.98
Inst	=	4.45

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12181186946	[97.10%]
Misses	=	363177859	[2.90%]
Total	=	12544364805	
Kickouts	=	363177731, Dirty kickouts = 0, Transfers = 363177859	

Memory level: L1d

Hits	=	3056012220	[90.17%]
Misses	=	333243063	[9.83%]
Total	=	3389255283	
Kickouts	=	333242935, Dirty kickouts = 135165653, Transfers = 333243063	

Memory level: L2

Hits	=	657535007	[79.07%]
Misses	=	174051568	[20.93%]
Total	=	831586575	
Kickouts	=	174051056, Dirty kickouts = 42644502, Transfers = 174051568	

Cost analysis:

L1i cache cost	=	\$100
L1d cache cost	=	\$100
L2 cache cost	=	\$50
Memory cost	=	\$75
Total cost	=	\$325

sjeng-L2-4way Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	8932406336	[22.15%]
Cycles for writes	=	8546934100	[21.20%]
Cycles for inst	=	22841733881	[56.65%]
Total time	=	40321074317	

Average cycles per activity:

Read	=	4.72
Write	=	11.37
Inst	=	3.11

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12325337739	[98.25%]
Misses	=	219027066	[1.75%]
Total	=	12544364805	
Kickouts	=	219026810, Dirty kickouts = 0, Transfers = 219027066	

Memory level: L1d

Hits	=	3258299627	[96.14%]
Misses	=	130955656	[3.86%]
Total	=	3389255283	
Kickouts	=	130955400, Dirty kickouts = 68155533, Transfers = 130955656	

Memory level: L2

Hits	=	331323921	[79.24%]
Misses	=	86814334	[20.76%]
Total	=	418138255	
Kickouts	=	86813822, Dirty kickouts = 29147141, Transfers = 86814334	

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$150
Memory cost	=	\$75
Total cost	=	\$1025

sjeng-L2-Big Simulation Results

Number of reference types:

Number of reads	=	1892411647	[18.92%]
Number of writes	=	751653128	[7.52%]
Number of inst	=	7355935225	[73.56%]
Total	=	10000000000	

Total cycles for all activities:

Cycles for reads	=	8246650988	[21.86%]
Cycles for writes	=	8075076680	[21.41%]
Cycles for inst	=	21396288609	[56.73%]
Total time	=	37718016277	

Average cycles per activity:

Read	=	4.36
Write	=	10.74
Inst	=	2.91

Ideal: Exec. Time = 17355935225; CPI = 2.36

Ideal mis-aligned: Exec. Time = 24792861569; CPI = 3.37

Memory level: L1i

Hits	=	12325337739	[98.25%]
Misses	=	219027066	[1.75%]
Total	=	12544364805	

Kickouts = 219026810, Dirty kickouts = 0, Transfers = 219027066

Memory level: L1d

Hits	=	3258299627	[96.14%]
Misses	=	130955656	[3.86%]
Total	=	3389255283	

Kickouts = 130955400, Dirty kickouts = 68155533, Transfers = 130955656

Memory level: L2

Hits	=	345209116	[82.56%]
Misses	=	72929139	[17.44%]
Total	=	418138255	

Kickouts = 72928115, Dirty kickouts = 25232504, Transfers = 72929139

Cost analysis:

L1i cache cost	=	\$400
L1d cache cost	=	\$400
L2 cache cost	=	\$100
Memory cost	=	\$75
Total cost	=	\$975