

CPU Performance Analysis Report 4.2.1

Measured time	Sat Jul 9 20:08:57 2022
Node name	31-4201c

Process no.	2
CMG no.	2
Measured region	axhelm_kernel, 1

Vector length (bit)	512
CPU frequency (GHz)	2.000

Statistics		Execution time (s)	GFLOPS	Floating-point operation peak ratio (%)	Memory throughput (GB/s)	Memory throughput peak ratio (%)	Effective instruction	Floating-point operation	SIMD instruction rate (%) (/Effective instruction)	SVE operation rate (%)	Floating-point pipeline Active element rate (%)	IPC	GIPS
Process	Thread												
2	0	3.17E-01	5.40	8.44%	1.99		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	1	3.17E-01	5.40	8.45%	1.96		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	2	3.17E-01	5.40	8.45%	1.93		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	3	3.17E-01	5.40	8.44%	1.94		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	4	3.17E-01	5.40	8.45%	1.93		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	5	3.17E-01	5.40	8.44%	1.96		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	6	3.17E-01	5.40	8.44%	1.95		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	7	3.17E-01	5.40	8.44%	1.94		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	8	3.17E-01	5.40	8.44%	1.96		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	9	3.17E-01	5.40	8.44%	1.93		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	10	3.17E-01	5.40	8.44%	1.94		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
2	11	3.17E-01	5.41	8.45%	1.98		6.64E+08	1.71E+09	57.06%	91.87%	92.31%	1.05	2.10
CMG 2 total		3.17E-01	64.85	8.45%	23.41	9.15%	7.97E+09	2.05E+10	57.06%	91.87%	92.31%	1.05	25.17

Busy		Floating-point operation pipeline A busy rate (%)	Floating-point operation pipeline B busy rate (%)	Integer operation pipeline A busy rate (%)	Integer operation pipeline B busy rate (%)	L1 busy rate (%)	L2 busy rate (%)	Memory busy rate (%)	Address calculation operation pipeline A busy rate (%)	Address calculation operation pipeline B busy rate (%)	Floating-point pipeline A Active element rate (%)	Floating-point pipeline B Active element rate (%)	L1 pipeline 0 Active element rate (%)	L1 pipeline 1 Active element rate (%)	SFI(Store Fetch Interlock) rate
Process	Thread														
2	0	43.83%	35.37%	2.99%	7.43%	30.41%			20.24%	22.53%	86.11%	100.00%	100.00%	100.00%	0.01
2	1	44.05%	35.15%	3.19%	7.50%	29.56%			20.11%	22.39%	86.17%	100.00%	100.00%	100.00%	0.01
2	2	44.05%	35.16%	3.17%	7.52%	29.56%			20.11%	22.38%	86.17%	100.00%	100.00%	100.00%	0.01
2	3	44.05%	35.15%	3.20%	7.50%	29.56%			20.09%	22.39%	86.17%	100.00%	100.00%	100.00%	0.01
2	4	44.07%	35.14%	3.16%	7.53%	29.57%			20.09%	22.41%	86.17%	100.00%	100.00%	100.00%	0.01
2	5	44.07%	35.13%	3.17%	7.52%	29.56%			20.09%	22.40%	86.18%	100.00%	100.00%	100.00%	0.01
2	6	44.05%	35.16%	3.18%	7.51%	29.57%			20.11%	22.39%	86.17%	100.00%	100.00%	100.00%	0.01
2	7	44.06%	35.14%	3.15%	7.53%	29.57%			20.10%	22.40%	86.17%	100.00%	100.00%	100.00%	0.01
2	8	44.07%	35.13%	3.17%	7.53%	29.56%			20.09%	22.39%	86.18%	100.00%	100.00%	100.00%	0.01
2	9	44.05%	35.15%	3.16%	7.52%	29.56%			20.08%	22.41%	86.17%	100.00%	100.00%	100.00%	0.01
2	10	44.05%	35.15%	3.17%	7.52%	29.56%			20.08%	22.42%	86.17%	100.00%	100.00%	100.00%	0.01
2	11	44.07%	35.14%	3.18%	7.51%	29.57%			20.10%	22.39%	86.18%	100.00%	100.00%	100.00%	0.01
CMG 2 total		44.04%	35.16%	3.16%	7.51%	29.63%	7.70%	9.15%	20.11%	22.41%	86.17%	100.00%	100.00%	100.00%	0.01

Cache		L1L1 miss rate (/Effective instruction)	Load-store instruction	L1D miss	L1D miss rate (/Load-store instruction)	L1D miss demand rate (%) (/L1D miss)	L1D miss hardware prefetch rate (%) (/L1D miss)	L1D miss software prefetch rate (%) (/L1D miss)	L2 miss	L2 miss rate (/Load-store instruction)	L2 miss demand rate (%) (/L2 miss)	L2 miss hardware prefetch rate (%) (/L2 miss)	L2 miss software prefetch rate (%) (/L2 miss)	L1D TLB miss rate (/Load-store instruction)	L2 TLB miss rate (/Load-store instruction)
Process	Thread														
2	0	0.00	1.35E+08	2.29E+06	0.02	25.93%	61.53%	12.54%	2.16E+06	0.02	17.29%	87.24%	0.00%	0.00000	0.00000
2	1	0.00	1.35E+08	2.33E+06	0.02	26.59%	60.40%	13.01%	2.16E+06	0.02	16.45%	88.50%	0.00%	0.00000	0.00000
2	2	0.00	1.35E+08	2.33E+06	0.02	26.54%	60.49%	12.97%	2.16E+06	0.02	16.60%	88.51%	0.00%	0.00000	0.00000
2	3	0.00	1.35E+08	2.31E+06	0.02	26.44%	60.84%	12.73%	2.16E+06	0.02	16.11%	87.82%	0.00%	0.00000	0.00000
2	4	0.00	1.35E+08	2.33E+06	0.02	26.53%	60.46%	13.01%	2.16E+06	0.02	16.33%	87.89%	0.00%	0.00000	0.00000
2	5	0.00	1.35E+08	2.33E+06	0.02	26.55%	60.46%	12.99%	2.16E+06	0.02	16.24%	88.66%	0.00%	0.00000	0.00000
2	6	0.00	1.35E+08	2.31E+06	0.02	26.44%	60.83%	12.73%	2.16E+06	0.02	15.99%	88.07%	0.00%	0.00000	0.00000
2	7	0.00	1.35E+08	2.31E+06	0.02	26.51%	60.80%	12.70%	2.16E+06	0.02	16.02%	88.21%	0.00%	0.00000	0.00000
2	8	0.00	1.35E+08	2.31E+06	0.02	26.49%	60.81%	12.70%	2.16E+06	0.02	16.14%	87.87%	0.00%	0.00000	0.00000
2	9	0.00	1.35E+08	2.32E+06	0.02	26.49%	60.77%	12.74%	2.16E+06	0.02	15.74%	88.12%	0.00%	0.00000	0.00000
2	10	0.00	1.35E+08	2.31E+06	0.02	26.40%	60.79%	12.81%	2.15E+06	0.02	15.95%	88.09%	0.00%	0.00000	0.00000
2	11	0.00	1.35E+08	2.32E+06	0.02	26.44%	60.72%	12.83%	2.16E+06	0.02	15.63%	88.06%	0.00%	0.00000	0.00000
CMG 2 total		0.00	1.62E+09	2.78E+07	0.02	26.45%	60.74%	12.81%	2.59E+07	0.02	16.21%	88.08%	0.00%	0.00000	0.00000

Instruction		Load-store instruction														Prefetch instruction				Floating-point instruction				Floating-point move and conversion instruction		Integer instruction	Branch instruction	Predicate instruction	Crypto-graphic instruction	Other instruction	Total							
		SIMD							Non-SIMD							Store instruction				Contiguous prefetch instruction	Gathering prefetch instruction	Scalar prefetch instruction	DCZVA instruction	Floating-point instruction except FMA and reciprocal	FMA instruction							Floating-point reciprocal instruction	Floating-point conversion instruction	Floating-point move instruction				
		SIMD							Non-SIMD							SIMD																			Non-SIMD			
		Single vector contiguous load instruction	Multiple vector contiguous store load instruction	Non-contiguous gather load instruction	Broadcast load instruction	Floating-point register fill instruction	Predicate register fill instruction	First-fault load instruction	Non-SIMD load instruction	Single vector contiguous store instruction	Multiple vector contiguous store store instruction	Non-contiguous scatter store instruction	Floating-point register spill instruction	Predicate register spill instruction	Non-SIMD store instruction	Single vector contiguous store instruction	Multiple vector contiguous store store instruction	Non-contiguous scatter store instruction	Floating-point register spill instruction																Predicate register spill instruction	Non-SIMD store instruction		
Process	Thread	0	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		1	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		2	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		3	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		4	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		5	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		6	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		7	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		8	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		9	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		10	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
		11	4.22E+06	0.00E+00	2.79E+07	0.00E+00	1.02E+06	1.70E+01	0.00E+00	6.05E+07	1.02E+06	0.00E+00	0.00E+00	8.00E+02	0.00E+00	4.05E+07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
CMG 2 total			5.07E+07	0.00E+00	3.35E+08	0.00E+00	1.23E+07	2.04E+02	0.00E+00	7.27E+08	1.23E+07	0.00E+00	0.00E+00	9.60E+03	0.00E+00	4.86E+08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E+06	8.00E+00	2.38E+08	4.92E+07	0.00E+00	0.00E+00	1.48E+08	0.00E+00	1.31E+06	1.01E+02	0.00E+00	8.67E+07	6.64E+08					
									1.62E+09																													