

CPU Performance Analysis Report 4.2.1

Measured time	Sat Jul 9 20:47:32 2022
Node name	e31-2201c

Process no.	0
CMG no.	0
Measured region	axhelm_kernel, 1

Vector length (bit)	512
CPU frequency (GHz)	1.999

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												
0	0	7.17E-02	12.23	19.11%	8.42		3.41E+08	8.77E+08	45.66%	100.00%	87.22%	2.38	4.76
0	1	7.17E-02	12.23	19.11%	8.31		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	2	7.17E-02	12.23	19.12%	8.39		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	3	7.17E-02	12.23	19.11%	8.26		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	4	7.17E-02	12.23	19.11%	8.34		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	5	7.17E-02	12.23	19.11%	8.44		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	6	7.17E-02	12.23	19.12%	8.58		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	7	7.17E-02	12.23	19.11%	8.44		3.41E+08	8.77E+08	45.67%	100.00%	87.17%	2.38	4.76
0	8	7.17E-02	12.23	19.12%	8.55		3.41E+08	8.77E+08	45.67%	100.00%	87.16%	2.38	4.76
0	9	7.17E-02	12.23	19.11%	8.48		3.41E+08	8.77E+08	45.67%	100.00%	87.16%	2.38	4.76
0	10	7.17E-02	12.23	19.12%	8.26		3.41E+08	8.77E+08	45.67%	100.00%	87.16%	2.38	4.76
0	11	7.17E-02	12.23	19.12%	8.39		3.41E+08	8.77E+08	45.67%	100.00%	87.25%	2.38	4.76
CMG 0 total		7.17E-02	146.74	19.12%	100.87	39.40%	4.10E+09	1.05E+10	45.67%	100.00%	87.18%	2.38	57.15

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														
0	0	57.61%	29.91%	25.70%	39.43%	59.49%			53.42%	53.52%	80.55%	100.00%	100.00%	100.00%	0.05
0	1	57.53%	29.83%	25.98%	39.70%	59.25%			53.68%	53.76%	80.50%	100.00%	100.00%	100.00%	0.05
0	2	57.57%	29.83%	25.83%	39.56%	59.29%			53.48%	53.61%	80.51%	100.00%	100.00%	100.00%	0.05
0	3	57.54%	29.83%	25.94%	39.70%	59.27%			53.65%	53.75%	80.50%	100.00%	100.00%	100.00%	0.05
0	4	57.52%	29.88%	25.89%	39.51%	59.29%			53.47%	53.61%	80.49%	100.00%	100.00%	100.00%	0.05
0	5	57.53%	29.83%	25.87%	39.56%	59.26%			53.49%	53.61%	80.50%	100.00%	100.00%	100.00%	0.05
0	6	57.50%	29.84%	25.86%	39.48%	59.25%			53.48%	53.52%	80.49%	100.00%	100.00%	100.00%	0.05
0	7	57.52%	29.83%	25.86%	39.50%	59.26%			53.49%	53.56%	80.50%	100.00%	100.00%	100.00%	0.05
0	8	57.94%	30.05%	25.85%	39.48%	59.69%			53.46%	53.55%	80.50%	100.00%	100.00%	100.00%	0.05
0	9	57.52%	29.83%	25.87%	39.52%	59.27%			53.46%	53.56%	80.49%	100.00%	100.00%	100.00%	0.05
0	10	57.54%	29.82%	25.85%	39.52%	59.27%			53.46%	53.55%	80.50%	100.00%	100.00%	100.00%	0.05
0	11	57.68%	29.91%	25.97%	39.61%	59.41%			53.63%	53.78%	80.59%	100.00%	100.00%	100.00%	0.05
CMG 0 total		57.58%	29.87%	25.87%	39.55%	59.33%	29.59%	39.40%	53.51%	53.62%	80.51%	100.00%	100.00%	100.00%	0.05

Cache		L1 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)	L2D TLB miss rate (/Load-store instruction)
Process	Thread														
0	0	0.00	1.16E+08	2.14E+06	0.02	2.04%	1.30%	96.65%	2.10E+06	0.02	8.87%	0.70%	90.43%	0.00000	0.00000
0	1	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.86%	2.10E+06	0.02	8.73%	0.62%	90.65%	0.00000	0.00000
0	2	0.00	1.16E+08	2.14E+06	0.02	3.12%	0.03%	96.84%	2.10E+06	0.02	8.73%	0.65%	90.62%	0.00000	0.00000
0	3	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.03%	96.84%	2.10E+06	0.02	8.72%	0.63%	90.65%	0.00000	0.00000
0	4	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.86%	2.10E+06	0.02	8.73%	0.64%	90.63%	0.00000	0.00000
0	5	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.87%	2.10E+06	0.02	8.77%	0.57%	90.66%	0.00000	0.00000
0	6	0.00	1.16E+08	2.14E+06	0.02	3.14%	0.00%	96.86%	2.10E+06	0.02	8.75%	0.60%	90.65%	0.00000	0.00000
0	7	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.87%	2.10E+06	0.02	8.74%	0.63%	90.64%	0.00000	0.00000
0	8	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.87%	2.10E+06	0.02	8.74%	0.61%	90.65%	0.00000	0.00000
0	9	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.87%	2.10E+06	0.02	8.75%	0.60%	90.66%	0.00000	0.00000
0	10	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.87%	2.10E+06	0.02	8.75%	0.58%	90.67%	0.00000	0.00000
0	11	0.00	1.16E+08	2.14E+06	0.02	3.13%	0.00%	96.87%	2.10E+06	0.02	8.72%	0.64%	90.64%	0.00000	0.00000
CMG 0 total		0.00	1.39E+09	2.57E+07	0.02	3.04%	0.12%	96.85%	2.52E+07	0.02	8.75%	0.62%	90.63%	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Load instruction								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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
		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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Process	Thread	0	1	2	3	4	5	6	7	8	9	10	11	CMG 0 total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</