

Table 1: Ryzen 9900X results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	82	2300	5.0	170	4700	5.2	190	5000	4.9
fmt_format	30	570	3.5	40	840	3.8	35	560	2.9
grisu3	12	290	4.5	29	630	4.0	26	510	3.6
grisu_exact	18	370	3.7	24	520	3.9	21	370	3.1
schubfach	9.9	250	4.5	24	490	3.7	19	320	3.0
dragonbox	11	260	4.3	18	410	4.1	15	240	3.0
ryu	14	320	4.3	24	580	4.3	20	400	3.5
double_conversion	27	610	4.0	45	1000	4.0	39	810	3.7
swiftDtoa	23	490	3.8	28	590	3.8	27	440	3.0
std::to_chars	18	490	4.8	30	780	4.8	25	600	4.3

Table 2: Ryzen 9900X results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	76	2200	5.3	160	4500	5.1	170	4700	5.2
fmt_format	27	580	3.9	35	840	4.4	30	530	3.2
grisu3	12	290	4.4	28	600	3.8	25	470	3.3
grisu_exact	16	340	3.9	22	480	3.8	19	320	3.0
schubfach	9.9	240	4.4	23	460	3.7	18	290	2.9
dragonbox	12	250	3.7	18	390	4.1	16	230	2.5
ryu	13	320	4.3	22	530	4.4	18	340	3.5
double_conversion	31	740	4.4	50	1200	4.2	44	980	4.0
swiftDtoa	20	440	4.0	24	530	4.0	23	380	3.0
std::to_chars	19	500	4.9	29	790	4.9	25	600	4.3

Table 3: Ryzen 9900X results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	62	1700	5.0	84	2400	5.3	99	2400	4.4
fmt_format	23	470	3.6	32	710	4.0	25	410	3.0
grisu_exact	16	310	3.5	24	430	3.4	19	270	2.5
schubfach	9.8	210	3.9	18	410	4.0	14	230	2.9
dragonbox	10	200	3.6	18	340	3.5	13	170	2.4
ryu	16	390	4.3	20	480	4.3	17	310	3.2
double_conversion	27	610	4.1	38	860	4.1	34	660	3.6
swiftDtoa	15	300	3.6	20	460	4.1	21	300	2.6
std::to_chars	21	540	4.6	26	630	4.4	23	450	3.6

Table 4: Ryzen 9900X results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	54	1600	5.6	78	2400	5.6	81	2300	5.2
fmt_format	23	490	3.9	33	730	4.1	24	420	3.2
grisu_exact	15	290	3.6	21	430	3.6	19	260	2.5
schubfach	9.8	220	4.0	18	400	4.0	15	220	2.7
dragonbox	10	210	3.6	17	340	3.8	14	180	2.3
ryu	16	380	4.2	20	450	4.2	17	280	3.0
double_conversion	31	740	4.3	43	1000	4.3	38	820	3.9
swiftDtoa	15	320	3.8	20	470	4.2	21	320	2.7
std::to_chars	21	550	4.6	25	630	4.6	23	460	3.6

Table 5: Neoverse-N1 results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	220	1700	3.2	460	3600	3.1	460	3700	3.2
fmt_format	88	610	2.8	170	1200	2.9	94	590	2.5
grisu3	40	310	3.1	99	700	2.8	78	500	2.6
grisu_exact	67	410	2.4	93	610	2.6	66	380	2.3
schubfach	35	250	2.9	85	540	2.6	56	300	2.1
dragonbox	39	260	2.7	67	470	2.8	43	230	2.2
ryu	49	330	2.7	87	600	2.8	57	360	2.5
double_conversion	88	610	2.8	160	1000	2.7	120	790	2.7
swiftDtoa	66	410	2.5	91	570	2.5	66	360	2.2
std::to_chars	71	490	2.8	120	810	2.7	87	570	2.6

Table 6: Neoverse-N1 results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	200	1600	3.1	430	3300	3.1	440	3400	3.1
fmt_format	85	530	2.5	140	820	2.4	89	490	2.2
grisu3	40	290	2.9	100	650	2.6	79	470	2.4
grisu_exact	58	340	2.4	83	550	2.7	57	330	2.3
schubfach	33	240	2.9	85	520	2.5	57	290	2.0
dragonbox	40	250	2.6	66	450	2.8	42	230	2.2
ryu	50	290	2.3	85	540	2.6	57	310	2.2
double_conversion	90	650	2.9	160	1100	2.8	120	870	2.8
swiftDtoa	65	400	2.5	89	560	2.6	66	360	2.2
std::to_chars	69	480	2.8	120	810	2.6	87	570	2.6

Table 7: Neoverse-N1 results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	170	1300	3.2	260	1900	3.0	240	1800	3.1
fmt_format	72	530	3.0	120	870	2.9	70	460	2.6
grisu_exact	43	320	3.0	74	510	2.8	46	280	2.4
schubfach	31	220	3.0	68	470	2.8	42	230	2.2
dragonbox	30	210	2.8	57	410	2.9	31	170	2.2
ryu	48	350	3.0	70	500	2.9	44	270	2.5
double_conversion	91	610	2.7	140	900	2.6	100	650	2.6
swiftDtoa	45	290	2.6	73	500	2.7	50	290	2.3
std::to_chars	66	500	3.1	87	650	3.0	58	410	2.8

Table 8: Neoverse-N1 results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	160	1200	3.1	230	1800	3.1	230	1700	3.0
fmt_format	59	450	3.1	95	720	3.1	55	390	2.8
grisu_exact	37	270	3.0	63	460	3.0	42	240	2.3
schubfach	30	210	2.9	64	460	2.9	41	220	2.2
dragonbox	30	210	2.8	55	400	2.9	31	170	2.2
ryu	42	330	3.1	60	470	3.1	39	240	2.5
double_conversion	93	650	2.8	140	960	2.7	110	710	2.7
swiftDtoa	43	300	2.8	67	500	3.0	50	300	2.4
std::to_chars	65	500	3.1	83	640	3.1	57	410	2.9

Table 9: Neoverse-V1 results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	150	1700	4.5	300	3500	4.5	320	3600	4.4
fmt_format	59	610	4.0	110	1200	4.2	63	590	3.6
grisu3	27	310	4.4	65	690	4.1	55	500	3.5
grisu_exact	38	400	4.1	56	610	4.2	42	380	3.4
schubfach	20	250	4.7	49	540	4.3	34	300	3.3
dragonbox	24	250	4.1	41	460	4.3	28	230	3.2
ryu	30	320	4.2	51	600	4.5	36	360	3.8
double_conversion	59	600	3.9	100	1000	3.8	81	780	3.7
swiftDtoa	43	410	3.7	52	560	4.2	43	360	3.2
std::to_chars	42	480	4.5	72	810	4.4	53	570	4.1

Table 10: Neoverse-V1 results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	140	1600	4.4	290	3300	4.4	310	3400	4.3
fmt_format	59	530	3.5	85	820	3.7	56	490	3.4
grisu3	30	290	3.8	67	650	3.7	56	470	3.2
grisu_exact	35	340	3.7	54	550	3.9	41	330	3.1
schubfach	22	230	4.1	50	520	4.0	36	290	3.1
dragonbox	26	250	3.7	41	450	4.2	27	230	3.2
ryu	29	290	3.7	51	540	4.1	35	310	3.4
double_conversion	68	640	3.6	120	1100	3.6	93	870	3.6
swiftDtoa	43	400	3.6	53	560	4.1	43	360	3.2
std::to_chars	42	480	4.4	69	800	4.5	53	570	4.1

Table 11: Neoverse-V1 results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	120	1300	4.4	170	1900	4.3	170	1800	4.0
fmt_format	54	520	3.7	89	870	3.8	51	460	3.5
grisu_exact	29	310	4.2	46	500	4.2	34	280	3.2
schubfach	19	220	4.5	40	470	4.6	26	230	3.5
dragonbox	20	200	3.9	36	410	4.4	22	170	3.0
ryu	33	350	4.2	43	500	4.5	30	270	3.4
double_conversion	60	610	3.9	88	890	3.9	69	650	3.6
swiftDtoa	29	290	3.8	44	490	4.3	36	290	3.1
std::to_chars	44	500	4.4	54	640	4.6	42	410	3.8

Table 12: Neoverse-V1 results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	110	1200	4.3	160	1800	4.2	160	1700	4.0
fmt_format	46	450	3.8	66	720	4.3	40	390	3.8
grisu_exact	28	270	3.7	44	460	4.0	33	240	2.8
schubfach	20	210	4.0	41	450	4.2	29	220	3.0
dragonbox	21	200	3.7	37	400	4.1	23	170	3.0
ryu	33	320	3.8	41	460	4.3	29	240	3.2
double_conversion	69	650	3.6	98	950	3.7	79	710	3.5
swiftDtoa	31	290	3.6	42	490	4.5	35	300	3.2
std::to_chars	44	500	4.4	53	640	4.6	42	410	3.8

Table 13: Neoverse-V2 results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	110	1700	5.5	230	3500	5.6	240	3700	5.4
fmt_format	49	610	4.4	84	1200	5.1	52	590	4.0
grisu3	21	310	5.2	51	690	4.8	45	500	4.0
grisu_exact	28	400	5.1	45	610	4.8	33	380	4.1
schubfach	15	250	5.8	38	540	5.0	28	300	3.9
dragonbox	17	250	5.2	33	460	5.0	23	230	3.6
ryu	21	320	5.4	42	600	5.2	29	360	4.4
double_conversion	46	600	4.6	84	1000	4.4	68	780	4.1
swiftDtoa	34	410	4.3	42	560	4.8	35	360	3.7
std::to_chars	32	480	5.4	55	810	5.2	41	570	5.0

Table 14: Neoverse-V2 results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	110	1600	5.4	220	3300	5.3	230	3400	5.3
fmt_format	44	530	4.3	68	830	4.4	48	490	3.7
grisu3	21	290	4.9	52	650	4.4	45	470	3.8
grisu_exact	27	340	4.6	44	550	4.4	32	330	3.7
schubfach	16	230	5.3	41	520	4.6	28	290	3.6
dragonbox	19	250	4.8	33	450	5.0	23	230	3.6
ryu	21	290	4.8	40	540	4.8	28	310	4.0
double_conversion	55	640	4.2	93	1100	4.2	77	870	4.0
swiftDtoa	31	400	4.5	42	560	4.8	34	360	3.8
std::to_chars	31	480	5.5	54	800	5.4	40	570	5.0

Table 15: Neoverse-V2 results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	87	1300	5.5	130	1900	5.3	130	1800	5.1
fmt_format	47	520	4.0	70	870	4.5	44	460	3.7
grisu_exact	22	310	5.2	37	500	4.8	27	280	3.6
schubfach	14	220	5.5	32	470	5.2	21	230	3.9
dragonbox	15	200	5.0	30	410	4.9	19	170	3.2
ryu	25	350	5.0	34	500	5.2	25	270	3.9
double_conversion	47	610	4.6	72	890	4.4	55	650	4.2
swiftDtoa	22	290	4.7	36	490	4.9	30	290	3.5
std::to_chars	34	500	5.2	46	640	5.0	34	410	4.3

Table 16: Neoverse-V2 results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	81	1200	5.4	130	1800	5.1	120	1700	5.0
fmt_format	33	450	4.9	54	730	4.8	33	390	4.2
grisu_exact	21	270	4.5	37	460	4.5	28	240	3.1
schubfach	15	210	4.9	32	450	5.1	23	220	3.5
dragonbox	16	200	4.7	30	400	4.8	19	170	3.2
ryu	25	320	4.6	32	460	5.1	24	240	3.7
double_conversion	55	650	4.2	80	950	4.2	63	710	4.0
swiftDtoa	22	290	4.7	34	490	5.1	29	300	3.6
std::to_chars	34	500	5.3	45	640	5.1	34	410	4.4

Table 17: AMD EPYC 9R14 results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	130	2300	4.9	260	4700	4.9	280	4900	4.8
fmt_format	46	610	3.6	83	1200	4.0	52	590	3.1
grisu3	21	310	3.9	49	680	3.8	42	520	3.4
grisu_exact	28	390	3.8	41	580	3.8	33	380	3.2
schubfach	19	270	3.8	43	550	3.5	32	340	2.8
dragonbox	17	270	4.4	32	450	3.8	24	250	2.8
ryu	22	350	4.3	42	630	4.1	32	410	3.5
double_conversion	48	640	3.6	80	1100	3.6	70	840	3.2
swiftDtoa	41	530	3.5	53	660	3.4	45	460	2.8
std::to_chars	32	510	4.3	53	860	4.4	46	640	3.8

Table 18: AMD EPYC 9R14 results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	120	2100	4.9	250	4400	4.7	250	4600	4.9
fmt_format	42	540	3.5	63	860	3.7	47	510	2.9
grisu3	21	290	3.8	50	630	3.4	44	470	2.9
grisu_exact	24	340	3.8	39	510	3.6	30	320	2.9
schubfach	17	240	3.9	39	490	3.5	31	290	2.5
dragonbox	18	250	3.8	31	420	3.6	24	230	2.6
ryu	22	310	3.9	39	560	3.8	31	350	3.1
double_conversion	54	720	3.6	91	1200	3.6	78	970	3.4
swiftDtoa	32	440	3.7	43	560	3.5	36	370	2.8
std::to_chars	32	510	4.4	52	850	4.4	45	640	3.9

Table 19: AMD EPYC 9R14 results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	99	1700	4.6	130	2400	5.0	150	2400	4.2
fmt_format	39	530	3.7	62	910	4.0	41	460	3.0
grisu_exact	25	330	3.6	38	490	3.5	30	290	2.6
schubfach	17	240	3.8	32	460	3.9	24	250	2.8
dragonbox	15	220	3.9	29	390	3.6	19	180	2.6
ryu	28	400	3.9	35	520	4.0	28	320	3.1
double_conversion	46	640	3.8	71	920	3.5	57	690	3.3
swiftDtoa	24	310	3.4	37	490	3.6	31	290	2.6
std::to_chars	37	560	4.1	47	680	4.0	38	460	3.3

Table 20: AMD EPYC 9R14 results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	87	1600	4.9	120	2300	5.0	130	2200	4.6
fmt_format	36	460	3.5	54	730	3.6	38	390	2.8
grisu_exact	23	300	3.6	35	460	3.6	29	270	2.5
schubfach	16	220	3.6	31	430	3.8	23	220	2.6
dragonbox	15	200	3.7	28	370	3.7	19	170	2.5
ryu	27	380	3.8	34	480	3.8	28	290	2.8
double_conversion	55	730	3.6	80	1000	3.5	66	800	3.3
swiftDtoa	23	310	3.7	34	490	3.9	31	310	2.7
std::to_chars	37	550	4.1	46	670	4.0	38	460	3.3

Table 21: Intel Xeon 8375C results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	140	2200	4.5	290	4600	4.5	320	4900	4.4
fmt_format	51	610	3.4	90	1200	3.7	59	590	2.9
grisu3	24	310	3.7	56	680	3.4	49	520	3.0
grisu_exact	31	390	3.6	46	570	3.6	36	380	3.0
schubfach	19	270	4.1	45	550	3.5	33	340	3.0
dragonbox	18	270	4.2	34	450	3.8	25	250	2.8
ryu	26	350	3.8	45	620	3.9	33	400	3.4
double_conversion	54	630	3.3	94	1000	3.2	77	830	3.1
swiftDtoa	41	520	3.6	53	650	3.6	46	460	2.9
std::to_chars	37	510	4.0	59	860	4.2	50	640	3.6

Table 22: Intel Xeon 8375C results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	130	2100	4.5	280	4400	4.5	300	4600	4.4
fmt_format	44	530	3.4	66	830	3.6	51	500	2.8
grisu3	22	290	3.8	57	630	3.2	48	470	2.8
grisu_exact	28	340	3.5	44	510	3.3	31	320	2.9
schubfach	17	240	4.0	43	490	3.3	31	290	2.7
dragonbox	20	250	3.6	34	420	3.5	25	220	2.6
ryu	24	310	3.6	42	540	3.7	31	330	3.1
double_conversion	61	720	3.4	110	1200	3.2	85	960	3.2
swiftDtoa	34	420	3.5	44	540	3.5	37	360	2.8
std::to_chars	37	510	4.0	59	850	4.2	50	640	3.6

Table 23: Intel Xeon 8375C results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	110	1700	4.3	160	2400	4.3	180	2300	3.8
fmt_format	45	530	3.3	72	890	3.6	47	460	2.8
grisu_exact	28	330	3.4	41	480	3.3	32	290	2.6
schubfach	18	230	3.7	36	450	3.6	26	250	2.7
dragonbox	16	210	3.8	32	380	3.5	20	180	2.5
ryu	30	400	3.8	38	520	3.9	30	320	3.0
double_conversion	58	640	3.2	84	910	3.1	68	680	2.9
swiftDtoa	25	300	3.4	38	490	3.6	33	290	2.5
std::to_chars	43	560	3.7	55	680	3.5	42	460	3.2

Table 24: Intel Xeon 8375C results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	100	1600	4.4	150	2300	4.4	160	2200	4.0
fmt_format	40	460	3.3	59	730	3.6	42	390	2.7
grisu_exact	24	300	3.5	40	460	3.3	32	270	2.4
schubfach	17	220	3.7	35	430	3.5	25	230	2.5
dragonbox	16	200	3.6	30	370	3.5	20	170	2.5
ryu	30	380	3.6	38	480	3.6	31	290	2.7
double_conversion	62	720	3.3	92	1000	3.2	73	800	3.1
swiftDtoa	24	310	3.7	37	490	3.8	35	310	2.6
std::to_chars	42	550	3.8	52	670	3.7	42	460	3.1

Table 25: Intel Xeon 8488C results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	110	2300	5.2	230	4600	5.3	260	4900	5.0
fmt_format	35	610	4.6	66	1200	4.7	43	590	3.6
grisu3	19	310	4.3	46	680	3.8	43	520	3.2
grisu_exact	23	390	4.5	34	570	4.5	28	380	3.6
schubfach	15	270	4.7	36	550	4.0	28	340	3.2
dragonbox	14	270	5.1	27	450	4.5	21	250	3.2
ryu	19	350	4.9	33	620	5.0	26	400	4.1
double_conversion	42	630	4.0	75	1100	3.7	63	830	3.5
swiftDtoa	31	530	4.4	41	660	4.3	36	470	3.4
std::to_chars	27	520	5.0	46	860	5.0	38	640	4.4

Table 26: Intel Xeon 8488C results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	110	2100	5.1	220	4400	5.3	240	4600	5.0
fmt_format	33	530	4.2	48	830	4.6	40	500	3.3
grisu3	18	290	4.2	46	630	3.6	42	470	2.9
grisu_exact	20	340	4.5	32	510	4.2	26	320	3.3
schubfach	14	240	4.6	34	500	3.8	27	290	2.8
dragonbox	16	250	4.0	26	420	4.3	20	220	2.9
ryu	18	310	4.5	31	550	4.7	24	330	3.6
double_conversion	45	720	4.2	77	1200	4.1	67	960	3.8
swiftDtoa	27	420	4.1	35	540	4.1	31	360	3.0
std::to_chars	27	510	5.0	44	850	5.1	38	640	4.4

Table 27: Intel Xeon 8488C results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	88	1700	5.0	130	2400	5.0	140	2300	4.3
fmt_format	30	530	4.6	54	900	4.4	34	460	3.5
grisu_exact	22	330	3.9	33	490	3.8	27	290	2.8
schubfach	15	240	4.2	28	460	4.3	23	250	2.9
dragonbox	13	220	4.3	26	390	3.8	17	180	2.7
ryu	22	400	4.7	31	520	4.4	24	320	3.4
double_conversion	44	640	3.9	65	910	3.7	53	680	3.4
swiftDtoa	20	310	4.0	31	490	4.1	28	290	2.7
std::to_chars	32	560	4.6	40	680	4.5	34	460	3.6

Table 28: Intel Xeon 8488C results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	83	1600	5.0	120	2300	5.2	130	2200	4.5
fmt_format	27	460	4.5	42	730	4.6	31	390	3.4
grisu_exact	19	300	4.2	31	460	3.9	28	270	2.6
schubfach	15	220	4.0	27	430	4.2	22	230	2.7
dragonbox	13	210	4.2	25	370	3.9	17	170	2.7
ryu	22	380	4.5	29	480	4.3	24	290	3.2
double_conversion	47	730	4.1	68	1000	4.0	56	800	3.7
swiftDtoa	19	310	4.3	29	490	4.5	29	310	2.9
std::to_chars	31	550	4.6	39	670	4.5	34	460	3.6

Table 29: AMD EPYC 7R13 results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	130	2300	4.6	280	4600	4.5	290	4900	4.5
fmt_format	48	610	3.4	88	1100	3.5	54	590	3.0
grisu3	23	310	3.6	52	680	3.5	44	520	3.2
grisu_exact	29	390	3.6	44	570	3.5	33	380	3.1
schubfach	20	270	3.5	46	550	3.2	34	340	2.7
dragonbox	18	270	3.9	34	450	3.6	24	250	2.8
ryu	24	350	3.8	43	630	3.9	32	410	3.5
double_conversion	54	630	3.2	94	1100	3.0	80	830	2.8
swiftDtoa	43	530	3.3	55	660	3.2	46	460	2.7
std::to_chars	37	520	3.8	57	860	4.1	48	640	3.6

Table 30: AMD EPYC 7R13 results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	120	2100	4.6	270	4400	4.4	270	4600	4.5
fmt_format	45	540	3.2	67	840	3.4	48	510	2.8
grisu3	22	290	3.5	53	630	3.2	44	470	2.9
grisu_exact	26	340	3.5	41	510	3.4	30	320	2.9
schubfach	18	240	3.5	43	490	3.1	30	290	2.6
dragonbox	20	250	3.3	33	420	3.5	24	230	2.6
ryu	23	310	3.6	40	550	3.8	30	350	3.1
double_conversion	58	720	3.3	100	1200	3.1	86	960	3.0
swiftDtoa	34	440	3.4	44	550	3.4	37	380	2.7
std::to_chars	36	510	3.8	57	850	4.0	47	640	3.7

Table 31: AMD EPYC 7R13 results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	100	1700	4.4	150	2400	4.4	160	2400	4.1
fmt_format	44	530	3.3	69	890	3.5	43	460	2.9
grisu_exact	27	330	3.2	40	480	3.3	30	290	2.6
schubfach	19	230	3.3	37	460	3.3	24	250	2.8
dragonbox	17	210	3.4	31	380	3.3	19	180	2.5
ryu	29	400	3.7	38	520	3.6	28	320	3.0
double_conversion	57	640	3.0	80	910	3.1	64	690	2.9
swiftDtoa	27	310	3.1	40	490	3.3	31	290	2.5
std::to_chars	41	560	3.7	51	680	3.6	41	460	3.0

Table 32: AMD EPYC 7R13 results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	94	1600	4.5	140	2300	4.4	140	2200	4.2
fmt_format	39	460	3.2	58	730	3.4	40	390	2.7
grisu_exact	23	300	3.4	36	460	3.4	29	270	2.5
schubfach	18	220	3.3	37	430	3.2	23	220	2.6
dragonbox	16	200	3.3	31	370	3.2	19	170	2.5
ryu	28	380	3.6	36	480	3.6	27	290	2.8
double_conversion	60	730	3.2	87	1000	3.2	72	800	3.0
swiftDtoa	25	310	3.4	37	490	3.5	32	310	2.6
std::to_chars	40	550	3.7	50	670	3.6	41	460	3.0

Table 33: Intel Xeon 8124M results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	200	2200	3.3	420	4600	3.1	440	4900	3.2
fmt_format	61	610	2.9	110	1200	3.0	65	590	2.6
grisu3	30	310	2.9	69	680	2.8	53	520	2.8
grisu_exact	37	390	3.0	57	570	2.9	41	380	2.6
schubfach	25	270	3.1	57	550	2.8	37	340	2.6
dragonbox	26	270	2.9	45	450	2.9	29	250	2.4
ryu	31	350	3.2	59	620	3.0	38	400	3.1
double_conversion	75	630	2.4	140	1000	2.2	100	830	2.4
swiftDtoa	47	520	3.2	67	650	2.8	50	460	2.7
std::to_chars	48	510	3.0	81	860	3.0	62	640	3.0

Table 34: Intel Xeon 8124M results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	200	2100	3.0	440	4400	2.9	460	4600	2.9
fmt_format	53	530	2.9	79	840	3.0	56	500	2.6
grisu3	28	290	2.9	68	630	2.6	55	470	2.5
grisu_exact	33	340	3.0	51	510	2.9	37	320	2.5
schubfach	22	240	3.1	53	500	2.7	35	290	2.4
dragonbox	26	250	2.7	43	420	2.8	29	220	2.2
ryu	29	310	3.0	50	550	3.1	34	330	2.8
double_conversion	84	720	2.4	150	1200	2.3	110	960	2.4
swiftDtoa	38	420	3.2	55	540	2.8	42	360	2.5
std::to_chars	48	510	3.0	80	850	3.1	63	640	2.9

Table 35: Intel Xeon 8124M results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	160	1700	3.1	230	2400	3.0	230	2300	2.9
fmt_format	52	530	2.9	92	890	2.8	51	460	2.6
grisu_exact	34	330	2.8	52	480	2.7	37	290	2.2
schubfach	22	230	3.0	46	450	2.8	30	250	2.4
dragonbox	21	210	2.9	41	380	2.7	23	180	2.2
ryu	34	400	3.3	49	520	3.0	33	320	2.8
double_conversion	77	640	2.4	120	910	2.2	82	680	2.4
swiftDtoa	30	300	3.0	49	490	2.9	37	290	2.3
std::to_chars	55	560	2.9	69	680	2.8	52	460	2.6

Table 36: Intel Xeon 8124M results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	160	1600	2.9	240	2300	2.8	240	2200	2.6
fmt_format	48	460	2.8	72	730	2.9	47	390	2.4
grisu_exact	29	300	3.0	50	460	2.6	35	270	2.2
schubfach	20	220	3.1	43	430	2.9	28	230	2.4
dragonbox	20	200	2.9	41	370	2.6	23	170	2.2
ryu	32	380	3.4	49	480	2.9	31	290	2.7
double_conversion	84	730	2.5	130	1000	2.3	92	800	2.5
swiftDtoa	29	310	3.0	48	490	2.9	36	310	2.4
std::to_chars	51	550	3.1	68	670	2.8	51	460	2.6

Table 37: AMD EPYC 7R32 results (g++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	170	2300	4.0	370	4600	3.9	370	4900	4.0
fmt_format	63	610	3.0	130	1100	2.7	67	590	2.7
grisu3	31	310	3.0	72	680	2.9	61	520	2.6
grisu_exact	38	390	3.1	58	570	3.1	41	380	2.8
schubfach	27	270	3.0	64	550	2.7	41	340	2.6
dragonbox	24	270	3.4	49	450	2.8	30	250	2.6
ryu	33	350	3.2	58	630	3.3	40	410	3.2
double_conversion	69	630	2.8	120	1100	2.6	99	830	2.6
swiftDtoa	56	530	2.9	74	660	2.7	59	460	2.4
std::to_chars	54	520	3.0	80	860	3.3	60	640	3.3

Table 38: AMD EPYC 7R32 results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	170	1900	3.5	340	4000	3.6	370	4200	3.5
fmt_format	61	540	2.7	94	830	2.8	61	500	2.6
grisu3	28	290	3.1	70	620	2.8	61	470	2.4
grisu_exact	34	340	3.1	57	510	2.8	38	320	2.6
schubfach	23	240	3.1	53	490	2.9	36	290	2.4
dragonbox	27	250	2.9	51	420	2.6	29	230	2.4
ryu	31	310	3.1	51	550	3.4	39	350	2.7
double_conversion	78	710	2.8	130	1200	2.7	110	970	2.7
swiftDtoa	42	440	3.2	56	550	3.0	45	370	2.5
std::to_chars	52	510	3.0	77	850	3.4	60	640	3.3

Table 39: AMD EPYC 7R32 results (g++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	140	1700	3.8	200	2400	3.8	190	2400	3.8
fmt_format	56	530	2.9	110	890	2.6	56	460	2.5
grisu_exact	35	330	2.8	56	480	2.7	40	290	2.2
schubfach	24	230	3.0	50	460	2.8	31	250	2.5
dragonbox	22	210	3.0	47	380	2.5	24	180	2.3
ryu	35	400	3.5	54	520	2.9	34	320	2.8
double_conversion	70	640	2.8	100	910	2.7	77	690	2.8
swiftDtoa	34	310	2.8	54	490	2.8	39	290	2.3
std::to_chars	58	560	3.0	76	680	2.8	57	460	2.5

Table 40: AMD EPYC 7R32 results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	130	1500	3.4	190	2100	3.4	190	2000	3.2
fmt_format	51	460	2.8	77	740	3.0	48	390	2.5
grisu_exact	30	300	3.0	48	460	2.9	36	270	2.3
schubfach	23	220	2.8	43	430	3.0	33	220	2.1
dragonbox	21	200	3.0	44	370	2.6	24	170	2.2
ryu	35	380	3.3	45	480	3.3	34	290	2.6
double_conversion	78	720	2.8	120	1000	2.7	93	790	2.6
swiftDtoa	32	310	3.0	47	490	3.2	40	310	2.4
std::to_chars	56	550	3.0	69	670	3.0	58	460	2.4

Table 41: Apple M4 Max results (clang++, 64-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	69	1500	5.3	150	3000	4.8	170	3300	4.6
fnt_format	22	530	5.4	29	640	5.0	30	510	3.8
grisu3	10	260	5.6	24	440	4.2	26	470	4.0
grisu_exact	11	320	6.3	15	340	5.1	18	340	4.2
schubfach	7.2	210	6.4	12	310	5.9	14	290	4.7
dragonbox	7.7	220	6.6	9.5	240	5.6	12	230	4.2
ryu	9.9	270	6.0	12	330	6.3	13	310	5.4
double_conversion	26	640	5.5	42	910	5.1	43	880	4.8
swiftDtoa	14	390	6.0	16	360	5.1	20	390	4.4
std::to_chars	13	350	5.8	15	440	6.6	16	410	5.6

Table 42: Apple M4 Max results (clang++, 32-bit floats)

Name	mesh			canada			unit		
	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c	ns/f	ins/f	ins/c
dragon4	53	1200	5.3	80	1600	4.6	88	1600	4.4
fnt_format	18	450	5.7	22	540	5.7	20	410	4.5
grisu_exact	8.4	240	6.4	12	250	4.6	15	250	3.6
schubfach	6.7	190	6.1	9.2	240	5.9	12	230	4.3
dragonbox	6.3	170	6.1	8.9	180	4.6	9.9	170	3.8
ryu	10	300	6.5	10	250	5.3	13	240	4.1
double_conversion	28	640	5.2	34	760	5.2	34	730	5.0
swiftDtoa	11	290	5.7	12	300	5.6	19	320	3.8
std::to_chars	15	420	6.4	15	400	6.0	19	390	4.6