



SPECaccel[®]2023 Result

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KTNF

(Test Sponsor: Telecommunications Technology Association)

NVIDIA H100

CoreRidge KH590S3

SPECaccel2023_base = 4.90

SPECaccel2023_peak = Not Run

accel2023 License: 068A

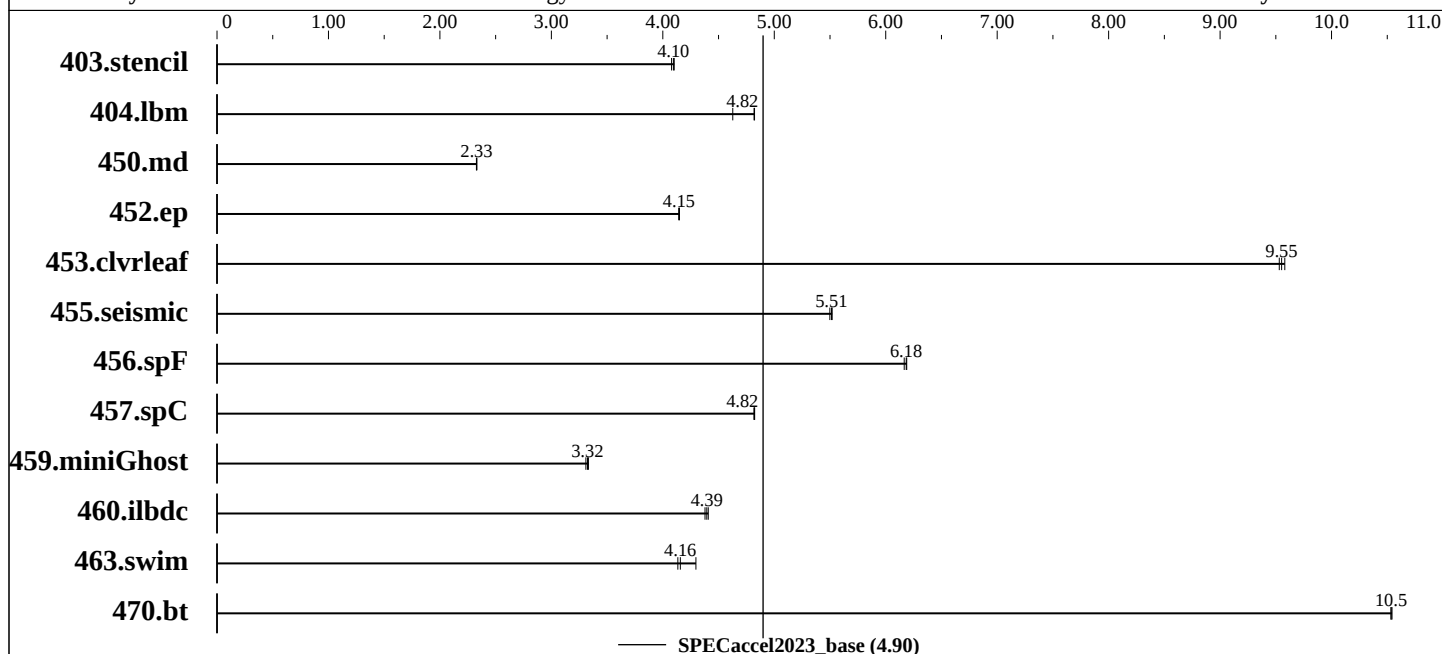
Test Sponsor: Telecommunications Technology Association

Tested by: Telecommunications Technology Association

Test Date: Nov-2025

Hardware Availability: Mar-2025

Software Availability: Jun-2025



Hardware

CPU Name: INTEL XEON PLATINUM 8558
Max MHz.: 4000
Nominal: 2100
Enabled: 96 cores, 2 chips, 2 threads/core
Orderable: 2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 260 MB I+D on chip per chip
Other: None
Memory: 256 GB (8 x 32 GB DDR5, 5600 MT/s, ECC)
Storage: 1x 1.92TB NVMe SSD
Other: None
Base Threads Run: 1
Min. Peak Threads: --
Max. Peak Threads: --

Accelerator

Accel Model Name: H100 NVL 96GB
Accel Vendor: NVIDIA Corporation
Accel Name: NVIDIA H100
Type of Accel: GPU
Accel Connection: PCIe Gen5 x16
Does Accel Use ECC: Yes
Accel Description: NVIDIA H100 NVL 96GB
Accel Driver: 580.105.08

Software

OS: Rocky Linux release 9.6 (Blue Onyx)
5.14.0-570.58.1.el9_6.x86_64
Compiler: C/Fortran: Version 25.9 NVHPC SDK
Firmware: American Megatrends Inc. S610KTFPD.031 11/01/2024
File System: xfs
System State: Run level 5 (multi-user)
Other: None
Base Parallel Model: ACC
Base Threads Run: 1
Peak Parallel Models: Not Run

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Software (Continued)

Max. Peak Threads: --

Min. Peak Threads: --

Results Table

Benchmark	Base								Peak							
	Model	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Model	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
403.stencil	ACC	107	4.10	<u>107</u>	<u>4.10</u>	108	4.08									
404.lbm	ACC	<u>94.4</u>	<u>4.82</u>	94.3	4.82	98.3	4.63									
450.md	ACC	<u>258</u>	<u>2.33</u>	258	2.33	257	2.33									
452.ep	ACC	100	4.15	<u>100</u>	<u>4.15</u>	100	4.14									
453.clvrlleaf	ACC	105	9.53	<u>105</u>	<u>9.55</u>	104	9.58									
455.seismic	ACC	<u>141</u>	<u>5.51</u>	142	5.50	141	5.52									
456.spF	ACC	<u>76.8</u>	<u>6.18</u>	76.8	6.19	77.0	6.17									
457.spC	ACC	<u>112</u>	<u>4.82</u>	112	4.82	112	4.82									
459.miniGhost	ACC	178	3.31	<u>177</u>	<u>3.32</u>	177	3.33									
460.ilbdc	ACC	<u>126</u>	<u>4.39</u>	127	4.38	126	4.41									
463.swim	ACC	106	4.13	<u>106</u>	<u>4.16</u>	102	4.30									
470.bt	ACC	<u>100</u>	<u>10.5</u>	100	10.5	100	10.5									

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

Sysinfo program /home/spec/accel2023/bin/sysinfo
Rev: r6622 of 2021-04-07 b1a7d5f8f71be5aff70a755cad7211a0
running on localhost.localdomain Wed Nov 12 11:32:21 2025

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

model name : INTEL(R) XEON(R) PLATINUM 8558
2 "physical id"s (chips)
192 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 48

siblings : 96

physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

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Platform Notes (Continued)

From lscpu from util-linux 2.37.4:

Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Address sizes: 52 bits physical, 57 bits virtual
Byte Order: Little Endian
CPU(s): 192
On-line CPU(s) list: 0-191
Vendor ID: GenuineIntel
Model name: INTEL(R) XEON(R) PLATINUM 8558
CPU family: 6
Model: 207
Thread(s) per core: 2
Core(s) per socket: 48
Socket(s): 2
Stepping: 2
CPU(s) scaling MHz: 21%
CPU max MHz: 4000.0000
CPU min MHz: 800.0000
BogoMIPS: 4200.00
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d arch_capabilities
Virtualization: VT-x
L1d cache: 4.5 MiB (96 instances)
L1i cache: 3 MiB (96 instances)
L2 cache: 192 MiB (96 instances)
L3 cache: 520 MiB (2 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-23,96-119
NUMA node1 CPU(s): 24-47,120-143
NUMA node2 CPU(s): 48-71,144-167
NUMA node3 CPU(s): 72-95,168-191
Vulnerability Gather data sampling: Not affected

(Continued on next page)



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Platform Notes (Continued)

Vulnerability Indirect target selection: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec rstack overflow: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRBS-eIBRS SW sequence; BHI BHI_DIS_S
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	4.5M	12	Data	1	64	1	64
L1i	32K	3M	8	Instruction	1	64	1	64
L2	2M	192M	16	Unified	2	2048	1	64
L3	260M	520M	20	Unified	3	212992	1	64

/proc/cpuinfo cache data
cache size : 266240 KB

From numactl --hardware

WARNING: a numactl 'node' might or might not correspond to a physical chip.

available: 4 nodes (0-3)

node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 96 97 98 99
100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119

node 0 size: 63597 MB

node 0 free: 62338 MB

node 1 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141
142 143

node 1 size: 64499 MB

node 1 free: 61161 MB

node 2 cpus: 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165
166 167

node 2 size: 64499 MB

node 2 free: 63718 MB

node 3 cpus: 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95
168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189

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Platform Notes (Continued)

190 191

node 3 size: 64438 MB

node 3 free: 63756 MB

node distances:

node	0	1	2	3
0:	10	12	21	21
1:	12	10	21	21
2:	21	21	10	12
3:	21	21	12	10

From /proc/meminfo

MemTotal: 263204616 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

/sbin/tuned-adm active

Current active profile: balanced

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has
powersave

From /etc/*release* /etc/*version*

os-release:

NAME="Rocky Linux"

VERSION="9.6 (Blue Onyx)"

ID="rocky"

ID_LIKE="rhel centos fedora"

VERSION_ID="9.6"

PLATFORM_ID="platform:el9"

PRETTY_NAME="Rocky Linux 9.6 (Blue Onyx)"

ANSI_COLOR="0;32"

redhat-release: Rocky Linux release 9.6 (Blue Onyx)

rocky-release: Rocky Linux release 9.6 (Blue Onyx)

rocky-release-upstream: Derived from Red Hat Enterprise Linux 9.6

system-release: Rocky Linux release 9.6 (Blue Onyx)

system-release-cpe: cpe:/o:rocky:rocky:9::baseos

uname -a:

Linux localhost.localdomain 5.14.0-570.58.1.el9_6.x86_64 #1 SMP PREEMPT_DYNAMIC Fri
Oct 31 13:55:05 UTC 2025 x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

gather_data_sampling:

Not affected

indirect_target_selection:

Not affected

CVE-2018-12207 (iTLB Multihit):

Not affected

CVE-2018-3620 (L1 Terminal Fault):

Not affected

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Platform Notes (Continued)

Microarchitectural Data Sampling: Not affected
CVE-2017-5754 (Meltdown): Not affected
mmio_stale_data: Not affected
reg_file_data_sampling: Not affected
retbleed: Not affected
spec_rstack_overflow: Not affected
CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled via prctl
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced / Automatic IBRS; IBPB: conditional; RSB filling; PBRSE-eIBRS: SW sequence; BHI: BHI_DIS_S
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 5 Nov 10 17:34

SPEC is set to: /home/spec/accel2023

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rl-home	xfs	856G	8.2G	848G	1%	/home

From /sys/devices/virtual/dmi/id
Vendor: KTNF Co.,Ltd.
Product: KH590S3
Product Family: Family

Cannot run dmidecode; consider saying (as root)
chmod +s /usr/sbin/dmidecode

BIOS:

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: S610KTFPD.031
BIOS Date: 11/01/2024

(End of data from sysinfo program)

Compiler Version Notes

=====
C | 457.spC(base)

/usr/bin/ld: /usr/lib64/crt1.o: in function `_start':
(.text+0x1b): undefined reference to `main'

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Compiler Version Notes (Continued)

pgacclnk: child process exit status 1: /usr/bin/ld
nvc 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids
NVIDIA Compilers and Tools
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C | 403.stencil(base) 404.lbm(base) 452.ep(base) 470.bt(base)

nvc 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids
NVIDIA Compilers and Tools
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C | 457.spC(base)

/usr/bin/ld: /usr/lib64/crt1.o: in function `_start':
(.text+0x1b): undefined reference to `main'
pgacclnk: child process exit status 1: /usr/bin/ld
nvc 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids
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C | 403.stencil(base) 404.lbm(base) 452.ep(base) 470.bt(base)

nvc 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids
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Fortran | 450.md(base) 455.seismic(base) 456.spF(base) 460.ilbdc(base)
| 463.swim(base)

nvfortran 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids
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Fortran, C | 453.clvrleaf(base) 459.miniGhost(base)

nvfortran 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids
NVIDIA Compilers and Tools

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Compiler Version Notes (Continued)

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nvc 25.9-0 64-bit target on x86-64 Linux -tp sapphirerapids

NVIDIA Compilers and Tools

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Base Compiler Invocation

C benchmarks:

nvc

Fortran benchmarks:

nvfortran

Benchmarks using both Fortran and C:

nvfortran nvc

Base Portability Flags

457.spC: -mmodel=medium -wl, --no-relax

Base Optimization Flags

C benchmarks:

-Ofast -gpu=cc90 -gpu=ptx -gpu=nordc -acc -Mfprelaxed

-Mstack_arrays

Fortran benchmarks:

450.md: -O3 -gpu=cc90 -gpu=ptx -gpu=nordc -acc -Mfprelaxed

-Mstack_arrays

455.seismic: -Ofast -gpu=cc90 -gpu=ptx -gpu=nordc -acc -Mfprelaxed

-Mstack_arrays

456.spF: Same as 455.seismic

460.ilbdc: Same as 455.seismic

463.swim: Same as 455.seismic

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

453.cvrleaf: -Ofast -gpu=cc90 -gpu=ptx -gpu=nordc -acc -Mfprelaxed
-Mstack_arrays

459.miniGhost: -Mnomain -Ofast -gpu=cc90 -gpu=ptx -gpu=nordc -acc
-Mfprelaxed -Mstack_arrays

The flags files that were used to format this result can be browsed at

http://www.spec.org/accel2023/flags/nv2023_flags_v2.html

http://www.spec.org/accel2023/flags/nv2021_flags_v1.0.3.2025-12-01.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/accel2023/flags/nv2023_flags_v2.xml

http://www.spec.org/accel2023/flags/nv2021_flags_v1.0.3.2025-12-01.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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