



SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55

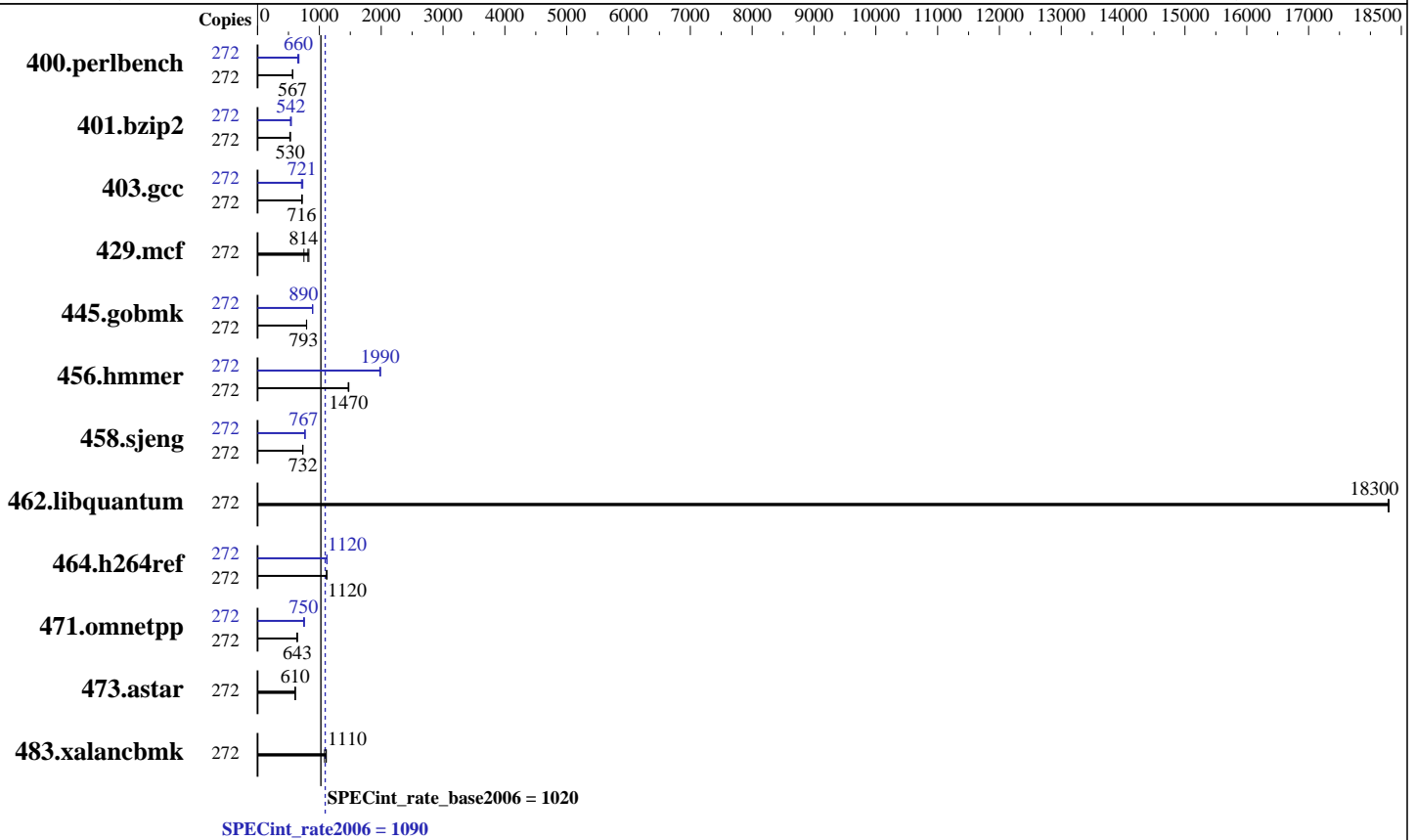
Test date: Jun-2017

Test sponsor: Dell Inc.

Hardware Availability: Jan-2017

Tested by: Dell Inc.

Software Availability: Jan-2016



Hardware

CPU Name: Intel Xeon Phi 7250
 CPU Characteristics: Intel Turbo Boost Technology up to 1.60 GHz
 CPU MHz: 1400
 FPU: Integrated
 CPU(s) enabled: 68 cores, 1 chip, 68 cores/chip, 4 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per two cores
 L3 Cache: None
 Other Cache: None
 Memory: 400 GB (6 x 64 GB 2Rx8 PC4-2400T-R, 8 x 2 GB 7200 MHz MCDRAM)
 Disk Subsystem: 1 x 1 TB 7.2K SATA
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12 SP3 (x86_64) 4.4.70-2-default
 Compiler: C/C++; Version 16.0.2.181 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55

Test date: Jun-2017

Test sponsor: Dell Inc.

Hardware Availability: Jan-2017

Tested by: Dell Inc.

Software Availability: Jan-2016

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	272	4686	567	4664	570	4692	566	272	4080	651	4025	660	3970	669
401.bzip2	272	5036	521	4951	530	4934	532	272	4934	532	4845	542	4808	546
403.gcc	272	3059	716	3023	724	3066	714	272	3038	721	3084	710	2992	732
429.mcf	272	3308	750	3048	814	2987	831	272	3308	750	3048	814	2987	831
445.gobmk	272	3595	794	3597	793	3606	791	272	3209	889	3207	890	3198	892
456.hammer	272	1731	1470	1721	1470	1721	1470	272	1284	1980	1277	1990	1278	1990
458.sjeng	272	4509	730	4495	732	4490	733	272	4295	766	4292	767	4288	767
462.libquantum	272	308	18300	308	18300	308	18300	272	308	18300	308	18300	308	18300
464.h264ref	272	5371	1120	5373	1120	5399	1110	272	5356	1120	5354	1120	5372	1120
471.omnetpp	272	2643	643	2671	637	2639	644	272	2267	750	2243	758	2270	749
473.astar	272	3143	608	3133	610	3125	611	272	3143	608	3133	610	3125	611
483.xalancbmk	272	1733	1080	1695	1110	1687	1110	272	1733	1080	1695	1110	1687	1110

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS settings:
 Virtualization Technology disabled
 System Profile set to Custom
 CPU Performance set to Maximum Performance
 C States set to autonomous
 C1E disabled
 Uncore Frequency set to Dynamic
 Energy Efficiency Policy set to Performance
 Memory Patrol Scrub disabled
 CPU Interconnect Bus Link Power Management disabled
 PCI ASPM L1 Link Power Management disabled
 Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914
 \$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
 running on linux-1j62 Fri Jun 30 18:33:16 2017

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Jun-2017
Hardware Availability: Jan-2017
Software Availability: Jan-2016

Platform Notes (Continued)

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```

From /proc/cpuinfo
model name : Intel(R) Xeon Phi(TM) CPU 7250 @ 1.40GHz
 1 "physical id"s (chips)
272 "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 : 68
  siblings  : 272
  physical 0: cores 0 1 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 48 49 50
51 52 53 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
cache size : 1024 KB

```

```

From /proc/meminfo
MemTotal:      396134540 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 3
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12-SP3"
VERSION_ID="12.3"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP3"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp3"

```

```

uname -a:
Linux linux-1j62 4.4.70-2-default #1 SMP Wed Jun 7 15:12:06 UTC 2017
(4502c76) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jun 30 18:29

```

SPEC is set to: /root/cpu2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdb1       xfs   930G  523G  407G  57% /

```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Jun-2017
Hardware Availability: Jan-2017
Software Availability: Jan-2016

Platform Notes (Continued)

hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Dell Inc. 1.3.0 05/12/2017

Memory:

6x Hynix HMAA8GL7MMR4N-UH 64 GB 4 rank 2400 MHz
8x INTEL N/A 2 GB 7200 MHz

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh"

Binaries compiled on a system with
Intel 2nd Generation Xeon Phi CPU
with 96GB DDR4 RAM memory using RedHat EL 7.2
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55

Test date: Jun-2017

Test sponsor: Dell Inc.

Hardware Availability: Jan-2017

Tested by: Dell Inc.

Software Availability: Jan-2016

Base Optimization Flags

C benchmarks:

-xMIC-AVX512 -ipo -O3 -no-prec-div -opt-prefetch

C++ benchmarks:

-xMIC-AVX512 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/sh -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64

403.gcc: -D_FILE_OFFSET_BITS=64

429.mcf: -D_FILE_OFFSET_BITS=64

445.gobmk: -D_FILE_OFFSET_BITS=64

456.hmmer: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64

458.sjeng: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64

462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

464.h264ref: -D_FILE_OFFSET_BITS=64

471.omnetpp: -D_FILE_OFFSET_BITS=64

473.astar: -D_FILE_OFFSET_BITS=64

483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55

Test date: Jun-2017

Test sponsor: Dell Inc.

Hardware Availability: Jan-2017

Tested by: Dell Inc.

Software Availability: Jan-2016

Peak Optimization Flags

C benchmarks:

400.perlbench: -xMIC-AVX512 -ipo -O3 -no-prec-div -prof-gen(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -auto-ilp32

401.bzip2: -xMIC-AVX512 -ipo -O3 -no-prec-div -prof-gen(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -opt-prefetch
-auto-ilp32 -ansi-alias

403.gcc: -xMIC-AVX512 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xMIC-AVX512(pass 2) -prof-gen(pass 1)
-par-num-threads=1(pass 1) -prof-use(pass 2) -ansi-alias

456.hmmer: -xMIC-AVX512 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xMIC-AVX512 -ipo -O3 -no-prec-div -prof-gen(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -unroll4
-auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xMIC-AVX512 -ipo -O3 -no-prec-div -prof-gen(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -xMIC-AVX512 -ipo -O3 -no-prec-div -prof-gen(pass 1)
-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias
-opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECint_rate2006 = 1090

PowerEdge C6320P (Intel Xeon Phi 7250 1.40 GHz)

SPECint_rate_base2006 = 1020

CPU2006 license: 55

Test date: Jun-2017

Test sponsor: Dell Inc.

Hardware Availability: Jan-2017

Tested by: Dell Inc.

Software Availability: Jan-2016

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge14G-revC.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Flags-PowerEdge14G-revC.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Aug 23 13:13:00 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 August 2017.