



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 41.1

PowerEdge T110 II (Intel Xeon E3-1220, 3.10 GHz)

SPECint_base2006 = 39.5

CPU2006 license: 55

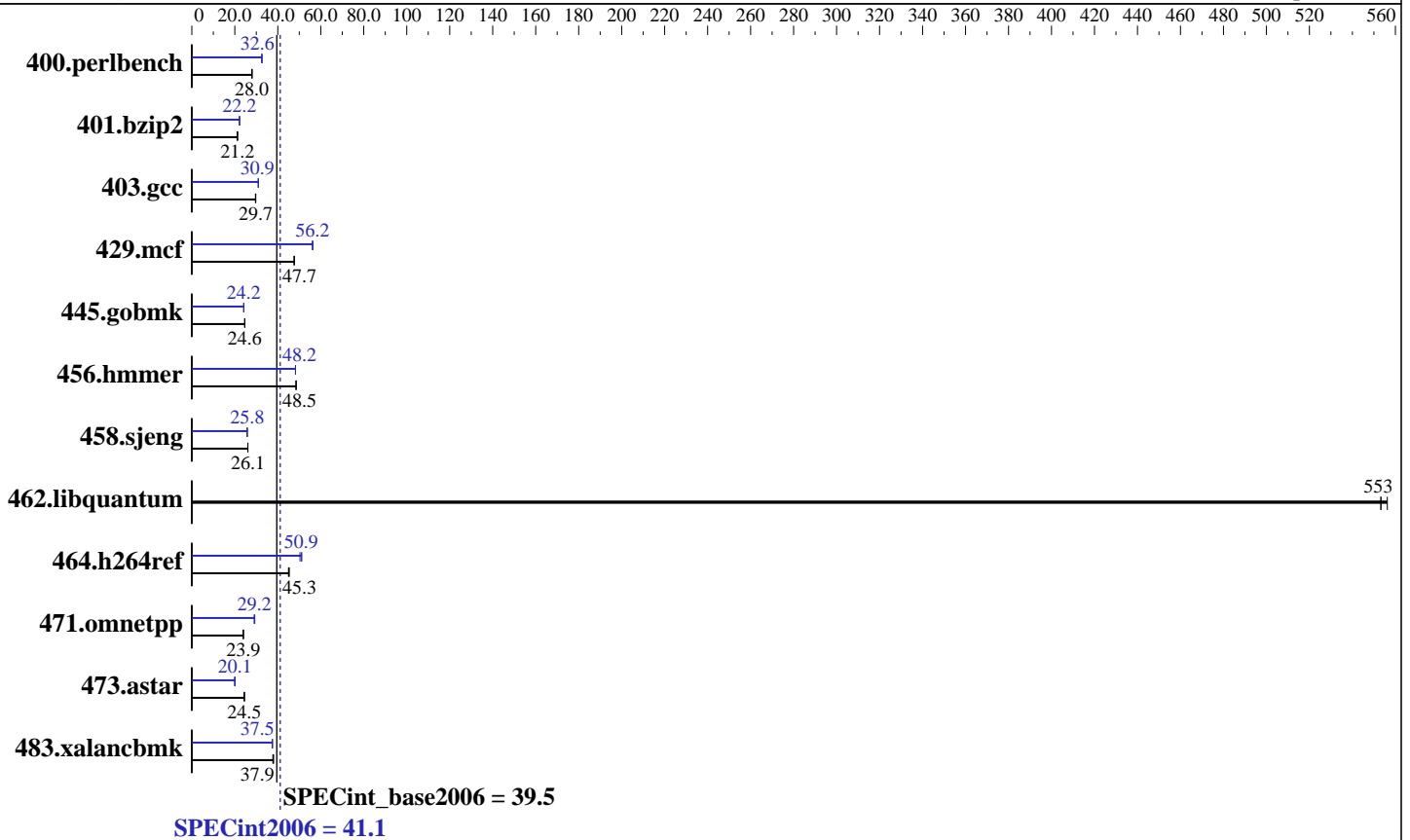
Test date: Mar-2011

Test sponsor: Dell Inc.

Hardware Availability: May-2011

Tested by: Dell Inc.

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon E3-1220
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (4 x 2 GB 2Rx4 PC3-10600R-9, ECC)
 Disk Subsystem: 1 x 146 GB 15000 RPM SAS
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap 8.1 32-bit Library for Linux



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 41.1

PowerEdge T110 II (Intel Xeon E3-1220, 3.10 GHz)

SPECint_base2006 = 39.5

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

Test date: Mar-2011
Hardware Availability: May-2011
Software Availability: Apr-2011

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>349</u>	<u>28.0</u>	348	28.0	350	27.9	300	32.6	299	32.7	<u>300</u>	<u>32.6</u>
401.bzip2	455	21.2	454	21.3	<u>455</u>	<u>21.2</u>	<u>435</u>	<u>22.2</u>	436	22.1	434	22.2
403.gcc	272	29.6	271	29.7	<u>271</u>	<u>29.7</u>	260	30.9	260	31.0	<u>260</u>	<u>30.9</u>
429.mcf	192	47.6	191	47.7	<u>191</u>	<u>47.7</u>	162	56.3	163	56.1	<u>162</u>	<u>56.2</u>
445.gobmk	426	24.6	<u>426</u>	<u>24.6</u>	426	24.6	434	24.2	434	24.2	<u>434</u>	<u>24.2</u>
456.hammer	192	48.5	192	48.5	<u>192</u>	<u>48.5</u>	193	48.2	<u>193</u>	<u>48.2</u>	193	48.3
458.sjeng	<u>464</u>	<u>26.1</u>	464	26.1	464	26.1	469	25.8	470	25.7	<u>469</u>	<u>25.8</u>
462.libquantum	37.5	553	37.3	556	<u>37.5</u>	<u>553</u>	37.5	553	37.3	556	<u>37.5</u>	<u>553</u>
464.h264ref	<u>489</u>	<u>45.3</u>	489	45.3	492	45.0	440	50.3	<u>435</u>	<u>50.9</u>	432	51.2
471.omnetpp	<u>261</u>	<u>23.9</u>	261	23.9	260	24.0	<u>214</u>	<u>29.2</u>	215	29.0	213	29.3
473.astar	<u>287</u>	<u>24.5</u>	288	24.4	287	24.5	353	19.9	348	20.2	<u>349</u>	<u>20.1</u>
483.xalancbmk	<u>182</u>	<u>37.9</u>	182	38.0	183	37.7	184	37.5	184	37.5	<u>184</u>	<u>37.5</u>

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

```
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
echo 900> /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

BIOS Settings:
Power Management = Maximum Performance (Default = Active Power Controller)
Logical Processor = Disabled (Default = Enabled)

General Notes

OMP_NUM_THREADS set to number of cores
The Dell PowerEdge T110 II and
the Bull NovaScale T810B F2 models are electronically equivalent.
The results have been measured on a Dell PowerEdge T110 II model
Binaries were compiled on RHEL5.5

Base Compiler Invocation

C benchmarks:
icc -m64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 41.1

PowerEdge T110 II (Intel Xeon E3-1220, 3.10 GHz)

SPECint_base2006 = 39.5

CPU2006 license: 55

Test date: Mar-2011

Test sponsor: Dell Inc.

Hardware Availability: May-2011

Tested by: Dell Inc.

Software Availability: Apr-2011

Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64
400.perlbench: icc -m32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 41.1

PowerEdge T110 II (Intel Xeon E3-1220, 3.10 GHz)

SPECint_base2006 = 39.5

CPU2006 license: 55

Test date: Mar-2011

Test sponsor: Dell Inc.

Hardware Availability: May-2011

Tested by: Dell Inc.

Software Availability: Apr-2011

Peak Compiler Invocation (Continued)

429.mcf: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)

-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch

-ansi-alias

-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)

-no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch

-ansi-alias

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc

-opt-malloc-options=3 -auto-ilp32

-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

429.mcf: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)

-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32

-ansi-alias

-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)

-auto-ilp32 -ansi-alias

-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 41.1

PowerEdge T110 II (Intel Xeon E3-1220, 3.10 GHz)

SPECint_base2006 = 39.5

CPU2006 license: 55

Test date: Mar-2011

Test sponsor: Dell Inc.

Hardware Availability: May-2011

Tested by: Dell Inc.

Software Availability: Apr-2011

Peak Optimization Flags (Continued)

456.hmmcr: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

473.astar: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=routine -Wl,-z,muldefs
-L/smartheap -lsmartheap64

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.xml>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 41.1

PowerEdge T110 II (Intel Xeon E3-1220, 3.10 GHz)

SPECint_base2006 = 39.5

CPU2006 license: 55

Test date: Mar-2011

Test sponsor: Dell Inc.

Hardware Availability: May-2011

Tested by: Dell Inc.

Software Availability: Apr-2011

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 v1.1.
Report generated on Wed Jul 23 18:09:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 June 2011.