



SPEC® CINT2006 Result

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ASUSTeK Computer Inc.

SPECint®2006 = 48.5

ASUS RS100-E7(P8B-M) Server System
(Intel Xeon E3-1280, 3.50 GHz)

SPECint_base2006 = 45.7

CPU2006 license: 9016

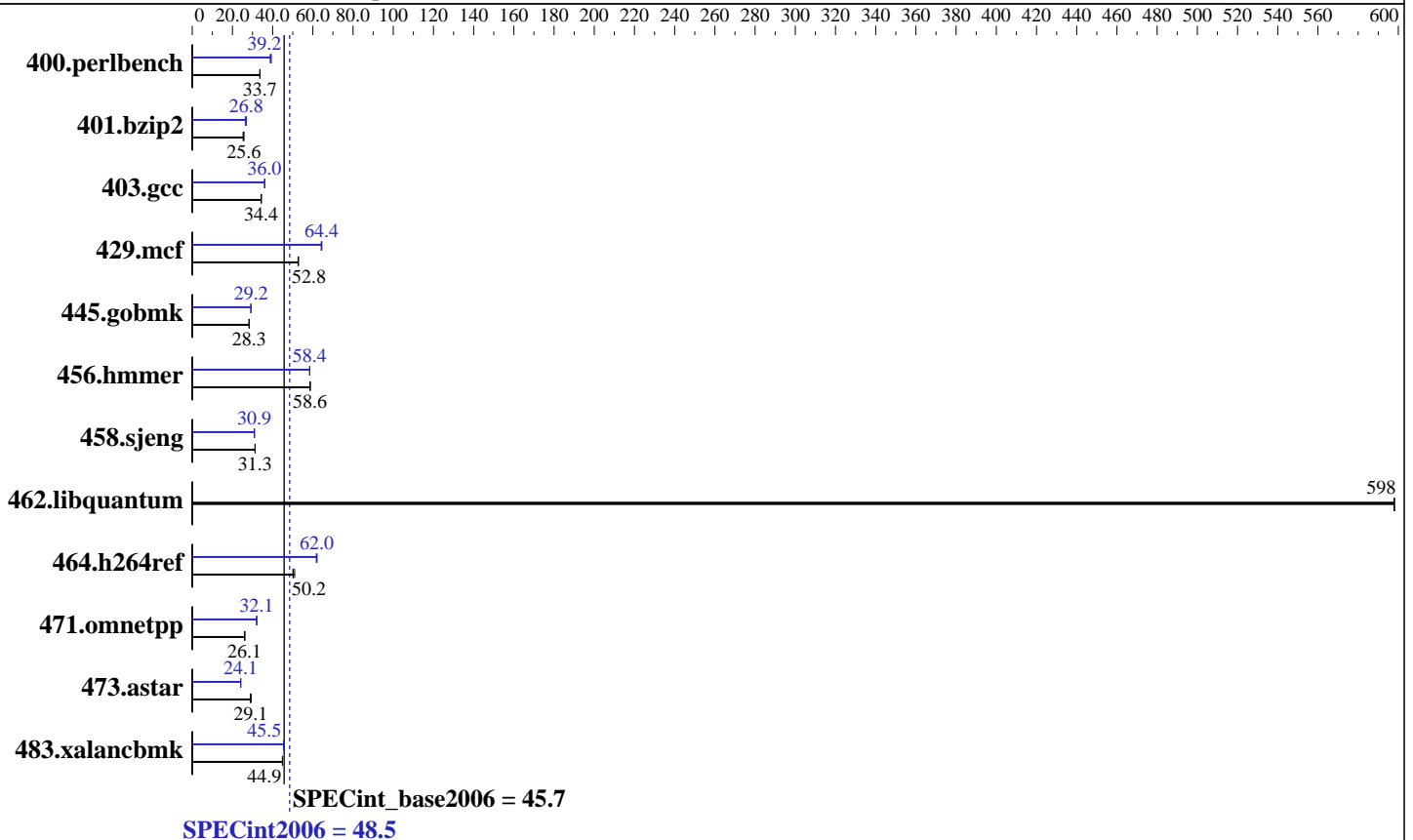
Test date: Jun-2011

Test sponsor: ASUSTeK Computer Inc.

Hardware Availability: Apr-2011

Tested by: ASUSTeK Computer Inc.

Software Availability: Jan-2011



Hardware

CPU Name: Intel Xeon E3-1280
 CPU Characteristics: Intel Turbo Boost Technology up to 3.9 GHz
 CPU MHz: 3500
 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 (2 x 4 GB 2Rx8 PC3L-10600E-9, ECC)
 Disk Subsystem: Seagate ST3500320AS 1 x 500 GB SATA, 7200 RPM
 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: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	290	33.7	<u>290</u>	<u>33.7</u>	290	33.7	<u>252</u>	<u>38.8</u>	249	39.3	<u>249</u>	<u>39.2</u>
401.bzip2	381	25.3	<u>376</u>	<u>25.6</u>	376	25.7	<u>366</u>	<u>26.4</u>	359	26.9	<u>360</u>	<u>26.8</u>
403.gcc	235	34.2	<u>234</u>	<u>34.4</u>	234	34.4	<u>224</u>	<u>36.0</u>	<u>223</u>	<u>36.0</u>	223	36.1
429.mcf	173	52.7	<u>173</u>	<u>52.8</u>	173	52.8	<u>142</u>	<u>64.1</u>	142	64.4	<u>142</u>	<u>64.4</u>
445.gobmk	371	28.3	370	28.3	<u>371</u>	<u>28.3</u>	360	29.2	359	29.2	<u>359</u>	<u>29.2</u>
456.hammer	159	58.7	<u>159</u>	<u>58.6</u>	159	58.6	<u>160</u>	<u>58.4</u>	<u>160</u>	<u>58.4</u>	160	58.5
458.sjeng	388	31.2	<u>387</u>	<u>31.3</u>	386	31.3	<u>392</u>	<u>30.9</u>	<u>391</u>	<u>30.9</u>	391	30.9
462.libquantum	34.7	598	34.6	598	<u>34.7</u>	<u>598</u>	34.7	598	34.6	598	<u>34.7</u>	<u>598</u>
464.h264ref	434	50.9	<u>441</u>	<u>50.2</u>	442	50.1	<u>357</u>	<u>62.1</u>	<u>357</u>	<u>62.0</u>	359	61.7
471.omnetpp	<u>240</u>	<u>26.1</u>	241	26.0	239	26.2	<u>195</u>	<u>32.1</u>	195	32.1	195	32.0
473.astar	<u>241</u>	<u>29.1</u>	241	29.1	240	29.2	<u>292</u>	<u>24.1</u>	<u>292</u>	<u>24.1</u>	290	24.2
483.xalancbmk	154	44.9	154	44.8	<u>154</u>	<u>44.9</u>	<u>152</u>	<u>45.4</u>	151	45.6	<u>152</u>	<u>45.5</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
Hugepages was not enabled

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
Binaries compiled on RHEL5.5 with
binutils-2.17.50.0.6-14.el5

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

```

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

```

```

429.mcf: icc -m32

```

```

445.gobmk: icc -m32

```

```

464.h264ref: icc -m32

```

C++ benchmarks (except as noted below):

```

icpc -m32

```

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Peak Compiler Invocation (Continued)

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

456.hmmer: -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

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Peak Optimization Flags (Continued)

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/ASUSTekPlatform.html>

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

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