



# SPEC® CINT2006 Result

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## Acer Incorporated

SPECint®2006 = 48.4

## Acer AT110 F2 (Xeon E3-1280)

SPECint\_base2006 = 45.7

CPU2006 license: 97

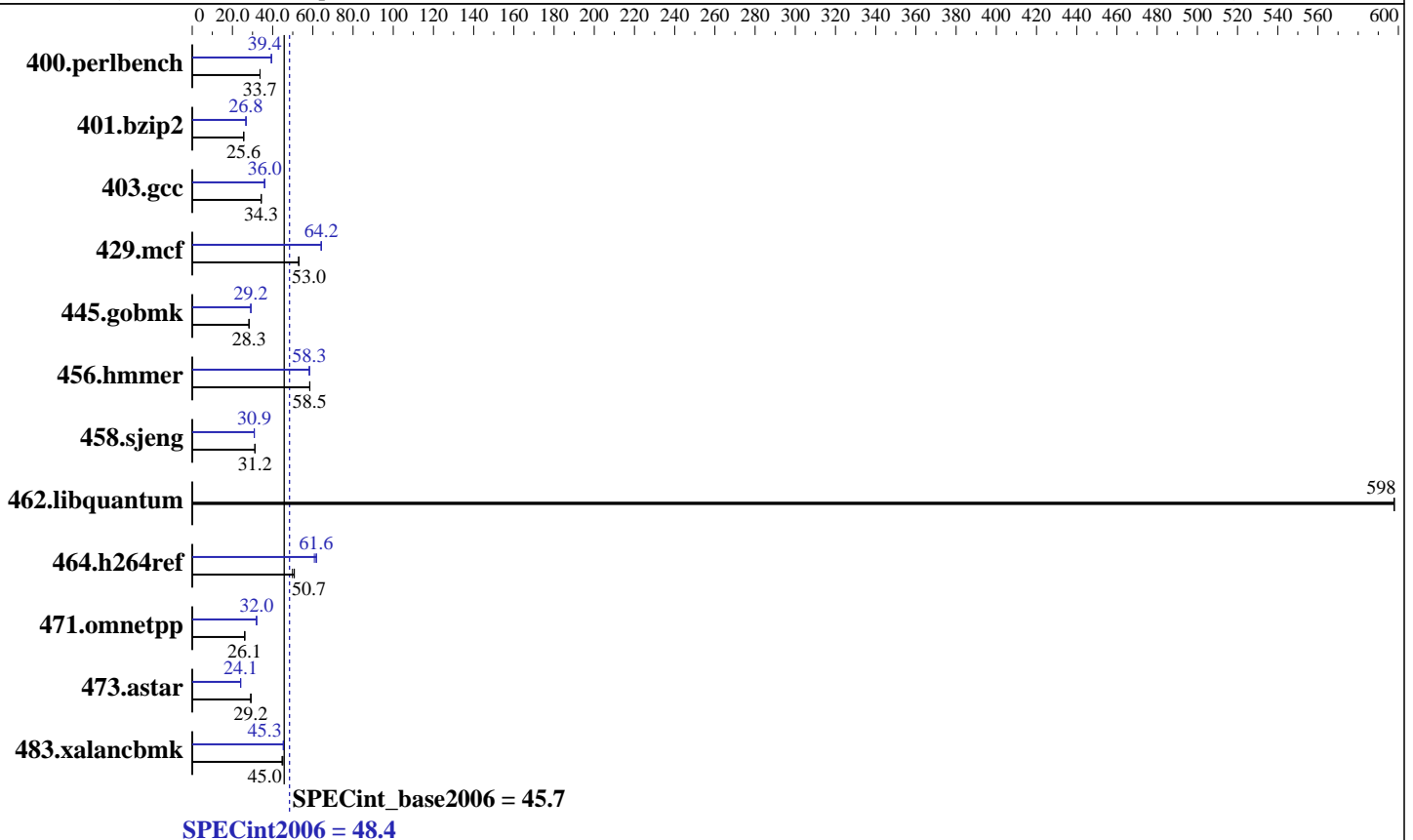
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Apr-2011

Hardware Availability: Apr-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E3-1280  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 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 PC3-10600E-9,ECC)  
 Disk Subsystem: 1 x 640 GB SATA, 7200 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) SP1 ,  
 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: 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	<b><u>290</u></b>	<b><u>33.7</u></b>	290	33.7	290	33.7	248	39.4	<b><u>248</u></b>	<b><u>39.4</u></b>	248	39.4
401.bzip2	377	25.6	377	25.6	<b><u>377</u></b>	<b><u>25.6</u></b>	361	26.7	<b><u>361</u></b>	<b><u>26.8</u></b>	361	26.8
403.gcc	234	34.3	<b><u>235</u></b>	<b><u>34.3</u></b>	235	34.3	224	35.9	223	36.1	<b><u>223</u></b>	<b><u>36.0</u></b>
429.mcf	172	53.1	<b><u>172</u></b>	<b><u>53.0</u></b>	172	52.9	142	64.1	<b><u>142</u></b>	<b><u>64.2</u></b>	142	64.3
445.gobmk	<b><u>371</u></b>	<b><u>28.3</u></b>	371	28.3	371	28.3	<b><u>360</u></b>	<b><u>29.2</u></b>	360	29.2	360	29.2
456.hammer	160	58.4	159	58.5	<b><u>160</u></b>	<b><u>58.5</u></b>	<b><u>160</u></b>	<b><u>58.3</u></b>	160	58.2	160	58.3
458.sjeng	<b><u>388</u></b>	<b><u>31.2</u></b>	388	31.2	388	31.2	<b><u>392</u></b>	<b><u>30.9</u></b>	392	30.9	392	30.9
462.libquantum	34.7	598	34.7	598	<b><u>34.7</u></b>	<b><u>598</u></b>	34.7	598	34.7	598	<b><u>34.7</u></b>	<b><u>598</u></b>
464.h264ref	<b><u>437</u></b>	<b><u>50.7</u></b>	435	50.8	444	49.9	358	61.8	<b><u>359</u></b>	<b><u>61.6</u></b>	364	60.7
471.omnetpp	240	26.0	<b><u>240</u></b>	<b><u>26.1</u></b>	239	26.2	<b><u>195</u></b>	<b><u>32.0</u></b>	195	32.0	196	31.9
473.astar	240	29.2	241	29.1	<b><u>241</u></b>	<b><u>29.2</u></b>	292	24.0	291	24.1	<b><u>291</u></b>	<b><u>24.1</u></b>
483.xalancbmk	155	44.6	<b><u>153</u></b>	<b><u>45.0</u></b>	153	45.1	152	45.3	152	45.4	<b><u>152</u></b>	<b><u>45.3</u></b>

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

## Operating System Notes

Large pages were disabled for this run

## General Notes

OMP\_NUM\_THREADS set to number of cores  
 KMP\_AFFINITY set to granularity=fine,scatter  
 Binaries compiled on RHEL5.5  
 This result was measured on the Gateway GT110 F2.  
 The Acer AT110 F2 is electronically equivalent.

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

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

<http://www.spec.org/cpu2006/flags/Acer-Intel-Linux-Settings-flags.xml>  
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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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