



# SPEC® CINT2006 Result

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## Acer Incorporated

**SPECint®2006 = 39.4**

Acer AW2000h-AW170h F1 (Intel Xeon X5670, 2.93GHz)

**SPECint\_base2006 = 36.6**

CPU2006 license: 97

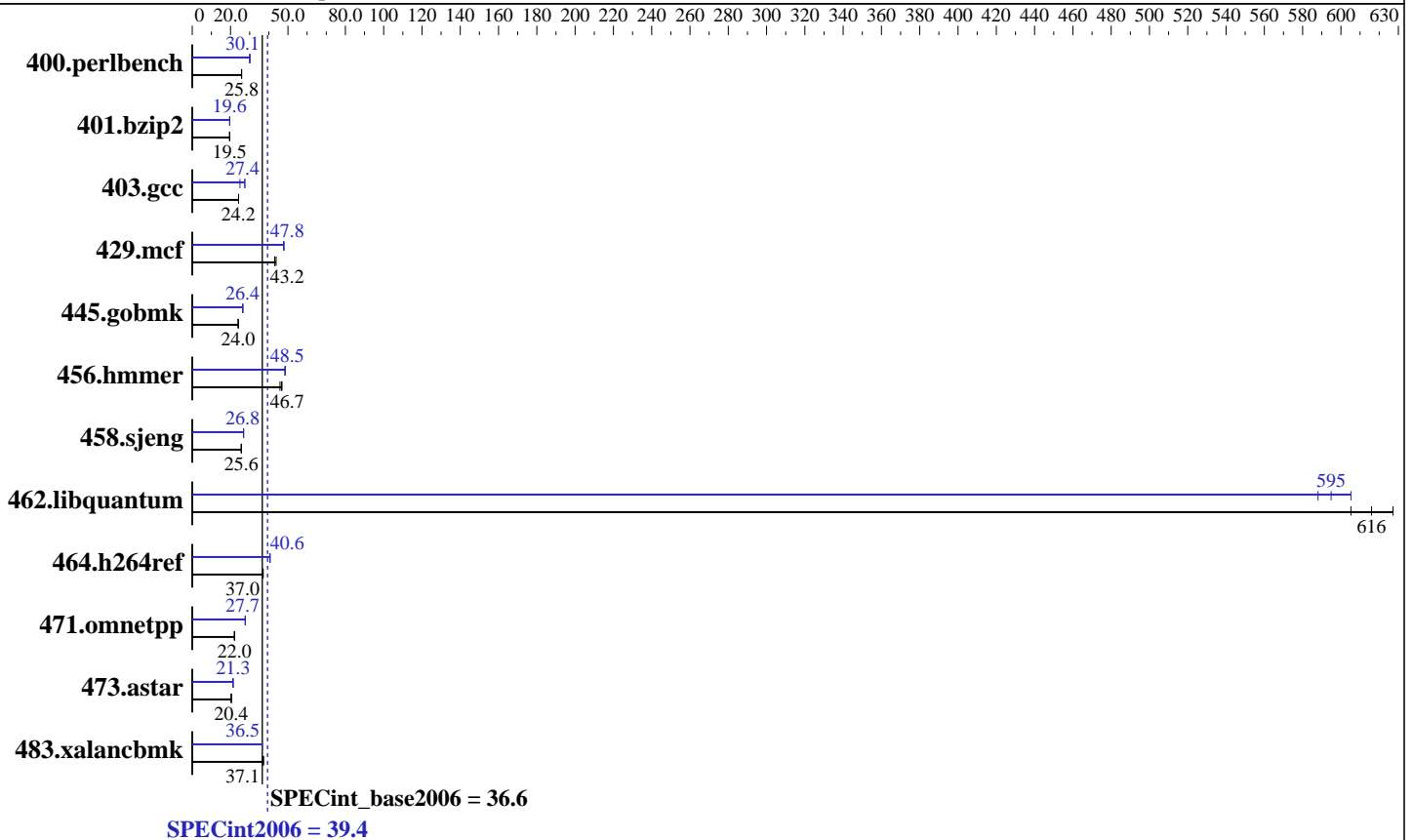
Test date: Jul-2010

Test sponsor: Acer Incorporated

Hardware Availability: Aug-2010

Tested by: Acer Incorporated

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon X5670  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz  
 CPU MHz: 2933  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 12 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 x 4 GB 2Rx8 PC3-10600R-9, ECC)  
 Disk Subsystem: 1 x 1000 GB SATA II, 7200 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64)  
 Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1  
 Build 20091130 Package ID: l\_cproc\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	380	25.7	<b><u>379</u></b>	<b><u>25.8</u></b>	378	25.8	325	30.1	325	30.1	<b><u>325</u></b>	<b><u>30.1</u></b>
401.bzip2	494	19.5	493	19.6	<b><u>494</u></b>	<b><u>19.5</u></b>	493	19.6	<b><u>493</u></b>	<b><u>19.6</u></b>	493	19.6
403.gcc	333	24.2	<b><u>333</u></b>	<b><u>24.2</u></b>	333	24.2	293	27.5	323	24.9	<b><u>293</u></b>	<b><u>27.4</u></b>
429.mcf	<b><u>211</u></b>	<b><u>43.2</u></b>	212	43.1	208	43.8	<b><u>191</u></b>	<b><u>47.8</u></b>	190	47.9	191	47.8
445.gobmk	436	24.0	437	24.0	<b><u>437</u></b>	<b><u>24.0</u></b>	<b><u>397</u></b>	<b><u>26.4</u></b>	397	26.4	397	26.4
456.hmmer	<b><u>200</u></b>	<b><u>46.7</u></b>	204	45.8	199	46.9	192	48.5	192	48.5	<b><u>192</u></b>	<b><u>48.5</u></b>
458.sjeng	471	25.7	473	25.6	<b><u>472</u></b>	<b><u>25.6</u></b>	<b><u>452</u></b>	<b><u>26.8</u></b>	450	26.9	452	26.8
462.libquantum	34.2	605	<b><u>33.6</u></b>	<b><u>616</u></b>	33.0	627	<b><u>34.8</u></b>	<b><u>595</u></b>	35.2	588	34.2	605
464.h264ref	597	37.1	599	36.9	<b><u>598</u></b>	<b><u>37.0</u></b>	<b><u>545</u></b>	<b><u>40.6</u></b>	544	40.7	546	40.5
471.omnetpp	283	22.1	<b><u>283</u></b>	<b><u>22.0</u></b>	284	22.0	226	27.7	<b><u>226</u></b>	<b><u>27.7</u></b>	225	27.7
473.astar	345	20.3	<b><u>344</u></b>	<b><u>20.4</u></b>	343	20.5	<b><u>329</u></b>	<b><u>21.3</u></b>	329	21.3	329	21.3
483.xalancbmk	185	37.3	188	36.8	<b><u>186</u></b>	<b><u>37.1</u></b>	<b><u>189</u></b>	<b><u>36.5</u></b>	188	36.6	189	36.4

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 stack size to unlimited prior to run  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

The Acer AW2000h-AW170h F1, Gateway GW2000h-GW170h F1, Acer AW2000ht-AW170ht F1 and Gateway GW2000ht-GW170ht F1 are electronically equivalent.  
This result was measured on GW2000ht-GW170ht F1.

## Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64



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## 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:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

## 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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)  
 -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
 -opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2  
 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -unroll4

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel  
 -opt-prefetch -par-schedule-static=32768 -ansi-alias

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -unroll2 -ansi-alias

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## Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch  
-Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101027.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revG.20101027.xml>

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