



# SPEC<sup>®</sup> CINT2006 Result

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## ACTION S.A.

## SPECint<sup>®</sup>\_rate2006 = 200

### ACTINA SOLAR 200 S4+ (Intel Xeon E5520)

## SPECint\_rate\_base2006 = 185

CPU2006 license: 9008

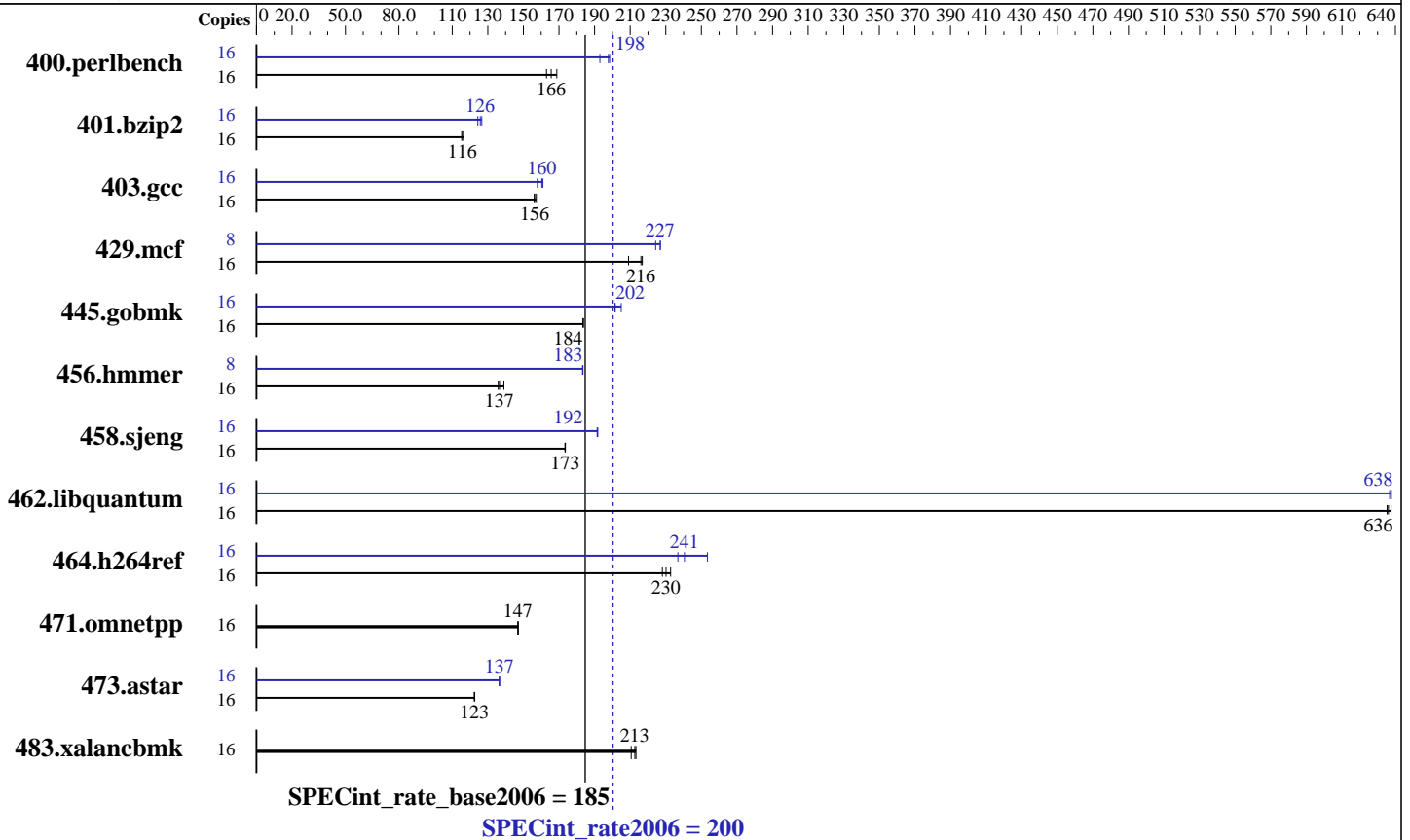
Test date: Sep-2009

Test sponsor: ACTION S.A.

Hardware Availability: Apr-2009

Tested by: ACTION S.A.

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon E5520  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6 x 4 GB PC3-8500, 1066 MHz, DDR3, ECC)  
 Disk Subsystem: 500 GB SATA, 7200 RPM  
 Other Hardware: None

### Software

Operating System: SuSe Linux Enterprise Server 10 (x86\_64) with SP2, kernel 2.6.16.60-0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l\_cproc\_p\_11.0.066  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Binutils 2.18.50.0.7.20080502  
 Microquill SmartHeap V8.1



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## Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	959	163	926	169	<b><u>944</u></b>	<b><u>166</u></b>	16	<b><u>790</u></b>	<b><u>198</u></b>	788	198	810	193
401.bzip2	16	1339	115	1326	116	<b><u>1333</u></b>	<b><u>116</u></b>	16	1241	124	1219	127	<b><u>1228</u></b>	<b><u>126</u></b>
403.gcc	16	819	157	<b><u>824</u></b>	<b><u>156</u></b>	825	156	16	<b><u>803</u></b>	<b><u>160</u></b>	800	161	816	158
429.mcf	16	698	209	673	217	<b><u>675</u></b>	<b><u>216</u></b>	8	325	224	<b><u>322</u></b>	<b><u>227</u></b>	321	227
445.gobmk	16	914	184	<b><u>914</u></b>	<b><u>184</u></b>	914	184	16	819	205	<b><u>833</u></b>	<b><u>202</u></b>	833	201
456.hammer	16	1074	139	1099	136	<b><u>1093</u></b>	<b><u>137</u></b>	8	<b><u>407</u></b>	<b><u>183</u></b>	407	183	407	183
458.sjeng	16	1115	174	<b><u>1116</u></b>	<b><u>173</u></b>	1117	173	16	1010	192	1011	191	<b><u>1010</u></b>	<b><u>192</u></b>
462.libquantum	16	520	638	<b><u>521</u></b>	<b><u>636</u></b>	522	635	16	<b><u>520</u></b>	<b><u>638</u></b>	521	637	520	638
464.h264ref	16	1521	233	<b><u>1539</u></b>	<b><u>230</u></b>	1552	228	16	<b><u>1472</u></b>	<b><u>241</u></b>	1397	253	1495	237
471.omnetpp	16	680	147	<b><u>681</u></b>	<b><u>147</u></b>	681	147	16	680	147	<b><u>681</u></b>	<b><u>147</u></b>	681	147
473.astar	16	<b><u>917</u></b>	<b><u>123</u></b>	918	122	916	123	16	823	136	<b><u>823</u></b>	<b><u>137</u></b>	822	137
483.xalancbmk	16	524	211	<b><u>519</u></b>	<b><u>213</u></b>	518	213	16	524	211	<b><u>519</u></b>	<b><u>213</u></b>	518	213

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

## Submit Notes

The config file option 'submit' was used.  
'numactl' was used to bind copies to the cores

## General Notes

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

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch
```

C++ benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc
```

```
401.bzip2: /opt/intel/Compiler/11.0/080/bin/intel64/icc
```

```
456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc
```

```
458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc
```

C++ benchmarks (except as noted below):

```
icpc
```

```
473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc
```

## Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
```

```
401.bzip2: -DSPEC_CPU_LP64
```

```
456.hmmer: -DSPEC_CPU_LP64
```

```
458.sjeng: -DSPEC_CPU_LP64
```

```
462.libquantum: -DSPEC_CPU_LINUX
```

```
473.astar: -DSPEC_CPU_LP64
```

```
483.xalancbmk: -DSPEC_CPU_LINUX
```



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## 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(pass 2) -static(pass 2)  
 -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

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

429.mcf: -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) -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 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static  
 -opt-malloc-options=3 -opt-prefetch

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

C++ benchmarks:

471.omnetpp: basepeak = yes

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 -auto-ilp32  
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap64

483.xalancbmk: basepeak = yes



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## 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-ic11.0-int-linux64-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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