



# SPEC® CINT2006 Result

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## HITACHI

### SPECint®\_rate2006 = 348

### BladeSymphony BS2000 (Intel Xeon X5670)

### SPECint\_rate\_base2006 = 325

CPU2006 license: 872

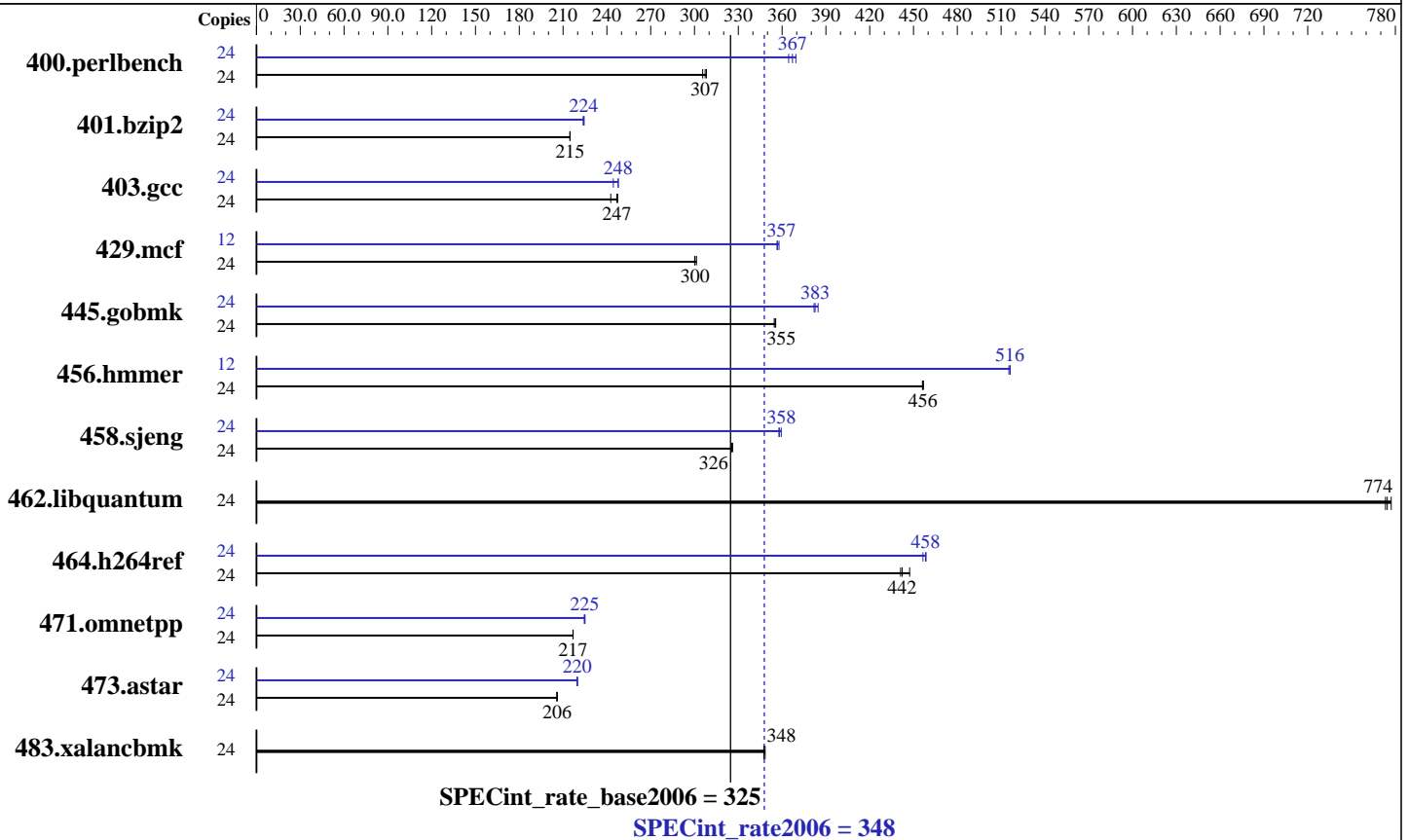
Test date: Nov-2010

Test sponsor: HITACHI

Hardware Availability: Apr-2010

Tested by: HITACHI

Software Availability: Dec-2009



#### 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 (6 x 8 GB 2Rx4 PC3-10600R-9, ECC)  
 Disk Subsystem: 2 x 146 GB 10000 rpm SAS RAID1 configuration  
 Other Hardware: None

#### Software

Operating System: Red Hat Enterprise Linux Server release 5.4.3, Advanced Platform, Kernel 2.6.18-164.9.1.el5 on an x86\_64  
 Compiler: Intel C++ Compiler 11.1 for Linux Build 20091012 Package ID: l\_cproc\_p\_11.1.059  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: 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	24	761	308	767	306	<b>763</b>	<b>307</b>	24	643	364	<b>639</b>	<b>367</b>	635	369
401.bzip2	24	1079	215	<b>1078</b>	<b>215</b>	1078	215	24	1035	224	<b>1034</b>	<b>224</b>	1032	224
403.gcc	24	781	247	<b>783</b>	<b>247</b>	796	243	24	<b>780</b>	<b>248</b>	780	248	790	244
429.mcf	24	<b>729</b>	<b>300</b>	726	301	729	300	12	307	357	<b>307</b>	<b>357</b>	306	358
445.gobmk	24	708	356	<b>709</b>	<b>355</b>	710	355	24	655	385	<b>658</b>	<b>383</b>	659	382
456.hammer	24	<b>491</b>	<b>456</b>	491	456	490	457	12	217	515	217	516	<b>217</b>	<b>516</b>
458.sjeng	24	<b>892</b>	<b>326</b>	892	325	891	326	24	808	359	<b>811</b>	<b>358</b>	812	358
462.libquantum	24	643	773	<b>642</b>	<b>774</b>	640	777	24	643	773	<b>642</b>	<b>774</b>	640	777
464.h264ref	24	1204	441	<b>1201</b>	<b>442</b>	1187	447	24	<b>1159</b>	<b>458</b>	1158	459	1163	456
471.omnetpp	24	692	217	692	217	<b>692</b>	<b>217</b>	24	668	224	<b>667</b>	<b>225</b>	667	225
473.astar	24	819	206	817	206	<b>818</b>	<b>206</b>	24	767	220	766	220	<b>767</b>	<b>220</b>
483.xalancbmk	24	475	348	477	347	<b>477</b>	<b>348</b>	24	475	348	477	347	<b>477</b>	<b>348</b>

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.  
'/usr/bin/numactl' used to bind processes to CPUs

### Operating System Notes

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

### Platform Notes

BIOS Settings:  
Data Reuse Optimization = Disabled

### Base Compiler Invocation

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32



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## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/bsc/smartheap/lib -lsmartheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

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  
456.hmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

462.libquantum: -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

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

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 -auto-ilp32

462.libquantum: basepeak = yes

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: -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/bsc/smartheap/lib -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/bsc/smartheap/lib -lsmartheap64

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## 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-revE.20100929.03.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100929.03.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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