



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 338

IBM BladeCenter HX5 (Intel Xeon X7550)

SPECint_rate_base2006 = 318

CPU2006 license: 11

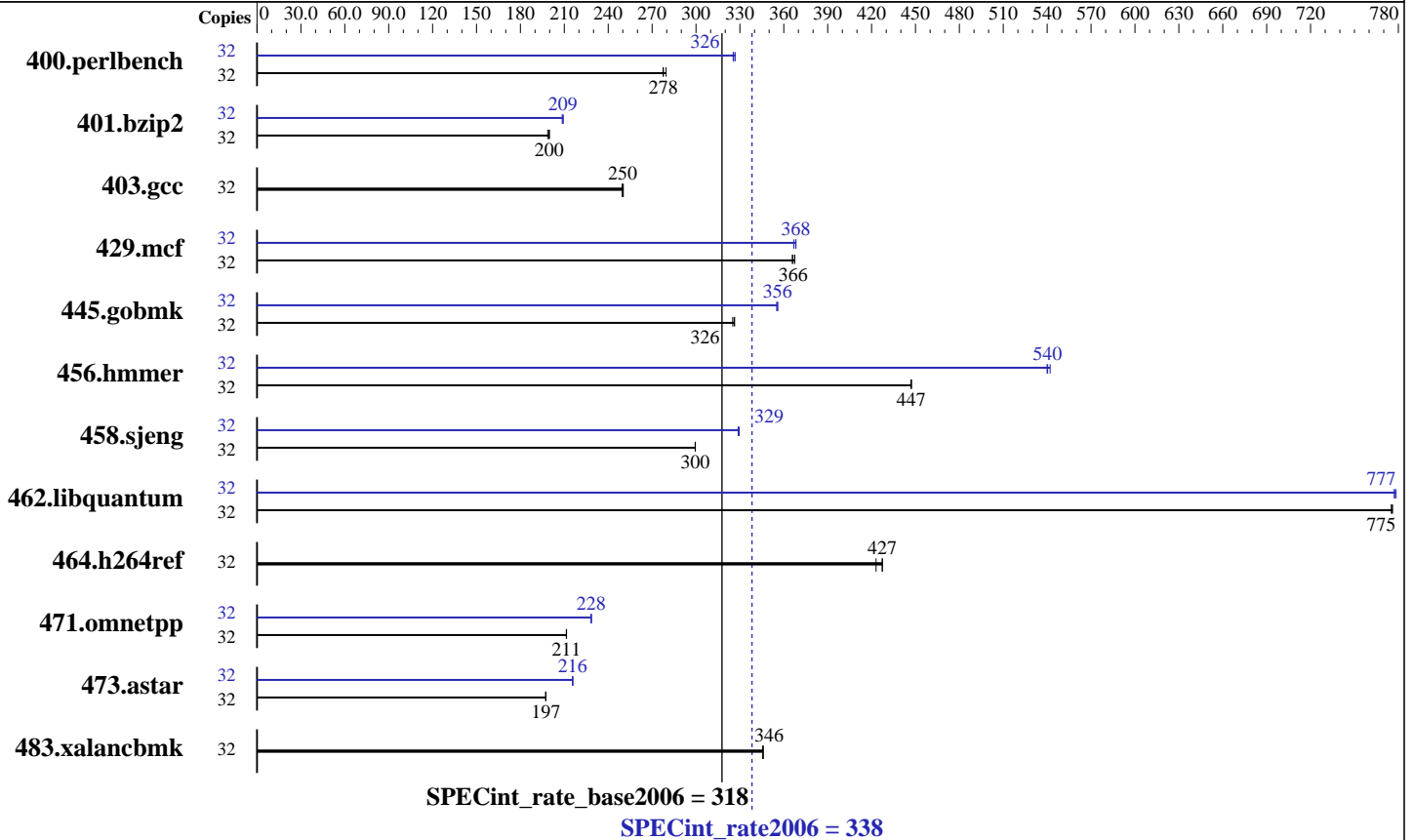
Test date: Aug-2010

Test sponsor: IBM Corporation

Hardware Availability: Oct-2010

Tested by: IBM Corporation

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X7550
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 18 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (16 x 8 GB PC3-8500R CL7, Quad Rank, running at 978 MHz)
 Disk Subsystem: 2 x 50 GB SATA, SSD, RAID 0
 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: 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 | 32 | 1126 | 278 | <u>1126</u> | <u>278</u> | 1118 | 280 | 32 | 961 | 325 | <u>960</u> | <u>326</u> | 957 | 327 |
| 401.bzip2 | 32 | <u>1547</u> | <u>200</u> | 1554 | 199 | 1545 | 200 | 32 | 1476 | 209 | 1481 | 209 | <u>1477</u> | <u>209</u> |
| 403.gcc | 32 | 1032 | 250 | <u>1031</u> | <u>250</u> | 1029 | 250 | 32 | 1032 | 250 | <u>1031</u> | <u>250</u> | 1029 | 250 |
| 429.mcf | 32 | <u>797</u> | <u>366</u> | 794 | 368 | 798 | 366 | 32 | 795 | 367 | 792 | 368 | <u>793</u> | <u>368</u> |
| 445.gobmk | 32 | 1028 | 326 | <u>1030</u> | <u>326</u> | 1033 | 325 | 32 | 943 | 356 | 945 | 355 | <u>943</u> | <u>356</u> |
| 456.hammer | 32 | 668 | 447 | <u>668</u> | <u>447</u> | 668 | 447 | 32 | 551 | 542 | 553 | 540 | <u>553</u> | <u>540</u> |
| 458.sjeng | 32 | <u>1293</u> | <u>300</u> | 1293 | 300 | 1293 | 299 | 32 | <u>1177</u> | <u>329</u> | 1177 | 329 | 1175 | 330 |
| 462.libquantum | 32 | <u>855</u> | <u>775</u> | 854 | 776 | 855 | 775 | 32 | 852 | 778 | <u>853</u> | <u>777</u> | 853 | 777 |
| 464.h264ref | 32 | 1674 | 423 | 1657 | 427 | <u>1657</u> | <u>427</u> | 32 | 1674 | 423 | 1657 | 427 | <u>1657</u> | <u>427</u> |
| 471.omnetpp | 32 | 945 | 212 | 946 | 211 | <u>946</u> | <u>211</u> | 32 | 876 | 228 | <u>876</u> | <u>228</u> | 875 | 229 |
| 473.astar | 32 | 1139 | 197 | 1137 | 197 | <u>1138</u> | <u>197</u> | 32 | <u>1041</u> | <u>216</u> | 1041 | 216 | 1042 | 216 |
| 483.xalancbmk | 32 | 638 | 346 | 639 | 346 | <u>639</u> | <u>346</u> | 32 | 638 | 346 | 639 | 346 | <u>639</u> | <u>346</u> |

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

Operating System Notes

```
echo 1 > /proc/sys/vm/zone_reclaim_mode
```

Platform Notes

Turbo Boost set to Traditional

General Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

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/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmarheap

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

462.libquantum: 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

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Peak Portability Flags (Continued)

456.hmmcr: -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

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: basepeak = yes

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.hmmcr: -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 -auto-ilp32
 -opt-prefetch

464.h264ref: basepeak = yes

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

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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.20100929.00.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.20100929.00.xml>

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For other inquiries, please contact webmaster@spec.org.

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