



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 674

IBM BladeCenter HX5 (Intel Xeon X7550)

SPECint_rate_base2006 = 633

CPU2006 license: 11

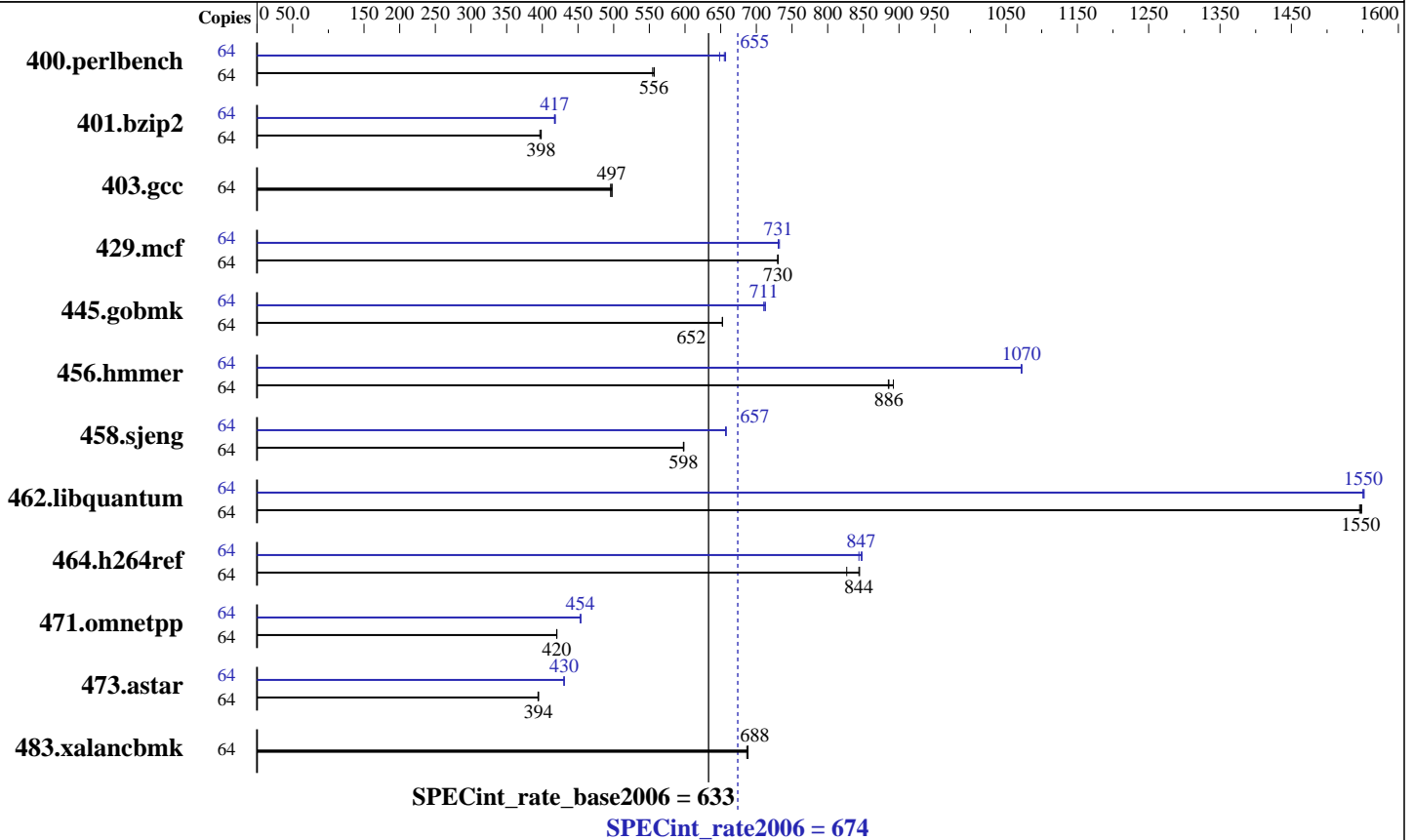
Test date: Sep-2010

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: 32 cores, 4 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2,3,4 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: 256 GB (32 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 | 64 | 1123 | 557 | <u>1124</u> | <u>556</u> | 1127 | 555 | 64 | 952 | 657 | 964 | 648 | <u>954</u> | <u>655</u> |
| 401.bzip2 | 64 | 1558 | 397 | <u>1552</u> | <u>398</u> | 1550 | 398 | 64 | 1477 | 418 | 1481 | 417 | <u>1480</u> | <u>417</u> |
| 403.gcc | 64 | 1035 | 498 | <u>1036</u> | <u>497</u> | 1039 | 496 | 64 | 1035 | 498 | <u>1036</u> | <u>497</u> | 1039 | 496 |
| 429.mcf | 64 | 799 | 731 | 800 | 730 | <u>799</u> | <u>730</u> | 64 | 799 | 731 | <u>799</u> | <u>731</u> | 797 | 732 |
| 445.gobmk | 64 | 1029 | 653 | 1029 | 652 | <u>1029</u> | <u>652</u> | 64 | 942 | 713 | <u>945</u> | <u>711</u> | 945 | 711 |
| 456.hammer | 64 | 669 | 892 | <u>674</u> | <u>886</u> | 675 | 885 | 64 | 557 | 1070 | 557 | 1070 | <u>557</u> | <u>1070</u> |
| 458.sjeng | 64 | <u>1295</u> | <u>598</u> | 1294 | 598 | 1296 | 598 | 64 | 1179 | 657 | <u>1178</u> | <u>657</u> | 1178 | 658 |
| 462.libquantum | 64 | 858 | 1550 | <u>857</u> | <u>1550</u> | 856 | 1550 | 64 | <u>855</u> | <u>1550</u> | 854 | 1550 | 855 | 1550 |
| 464.h264ref | 64 | 1713 | 827 | 1677 | 845 | <u>1679</u> | <u>844</u> | 64 | 1670 | 848 | 1679 | 844 | <u>1672</u> | <u>847</u> |
| 471.omnetpp | 64 | 952 | 420 | 951 | 420 | <u>952</u> | <u>420</u> | 64 | <u>882</u> | <u>454</u> | 882 | 453 | 881 | 454 |
| 473.astar | 64 | 1138 | 395 | 1140 | 394 | <u>1139</u> | <u>394</u> | 64 | 1043 | 431 | <u>1044</u> | <u>430</u> | 1044 | 430 |
| 483.xalancbmk | 64 | 642 | 688 | <u>642</u> | <u>688</u> | 643 | 687 | 64 | 642 | 688 | <u>642</u> | <u>688</u> | 643 | 687 |

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.icl1.1/libicl1.1-32bit -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

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: -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/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

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Peak Optimization Flags (Continued)

473.astar (continued):

`-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

483.xalancbmk: 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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