



SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 = 269

PowerEdge M910 (Intel Xeon E6540, 2.00 GHz)

SPECint_rate_base2006 = 250

CPU2006 license: 55

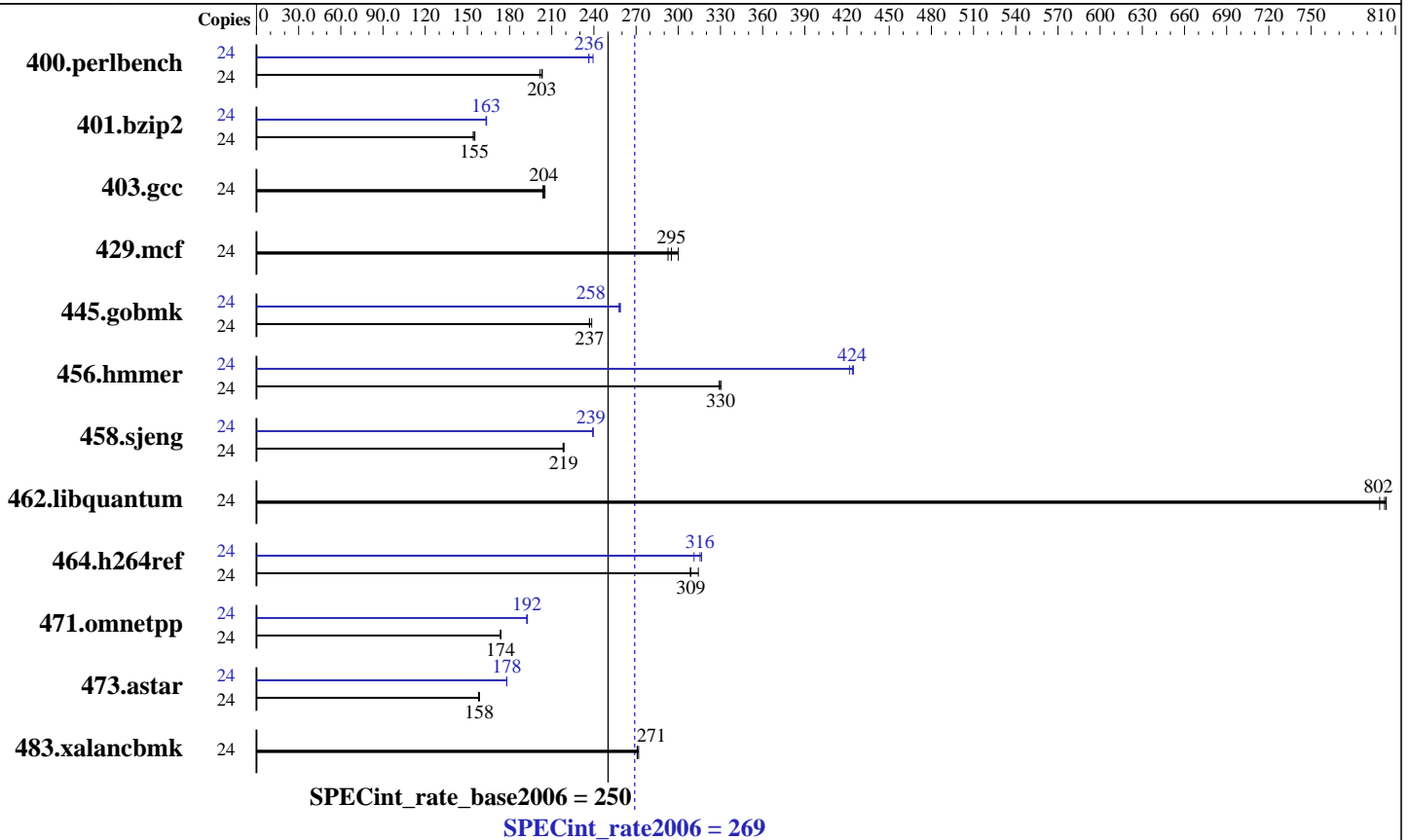
Test date: Jul-2010

Test sponsor: Dell Inc.

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009



Hardware

CPU Name: Intel Xeon E6540
 CPU Characteristics: Intel Turbo Boost Technology up to 2.27 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4 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 DDR3-1066 QR RDIMM, CL7, ECC, downclocked to 978 MHz)
 Disk Subsystem: 1 x 146 GB 15000 RPM SAS
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-smp
 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 | 24 | 1162 | 202 | 1155 | 203 | 1154 | 203 | 24 | 992 | 236 | 980 | 239 | 992 | 236 |
| 401.bzip2 | 24 | 1495 | 155 | 1503 | 154 | 1491 | 155 | 24 | 1417 | 163 | 1418 | 163 | 1415 | 164 |
| 403.gcc | 24 | 942 | 205 | 949 | 204 | 945 | 204 | 24 | 942 | 205 | 949 | 204 | 945 | 204 |
| 429.mcf | 24 | 729 | 300 | 748 | 293 | 742 | 295 | 24 | 729 | 300 | 748 | 293 | 742 | 295 |
| 445.gobmk | 24 | 1063 | 237 | 1063 | 237 | 1056 | 238 | 24 | 974 | 258 | 973 | 259 | 976 | 258 |
| 456.hammer | 24 | 678 | 330 | 681 | 329 | 678 | 330 | 24 | 527 | 425 | 528 | 424 | 531 | 422 |
| 458.sjeng | 24 | 1329 | 219 | 1332 | 218 | 1328 | 219 | 24 | 1214 | 239 | 1213 | 239 | 1213 | 239 |
| 462.libquantum | 24 | 622 | 799 | 619 | 803 | 620 | 802 | 24 | 622 | 799 | 619 | 803 | 620 | 802 |
| 464.h264ref | 24 | 1719 | 309 | 1721 | 309 | 1690 | 314 | 24 | 1683 | 316 | 1678 | 317 | 1707 | 311 |
| 471.omnetpp | 24 | 864 | 174 | 863 | 174 | 864 | 174 | 24 | 780 | 192 | 778 | 193 | 780 | 192 |
| 473.astar | 24 | 1063 | 159 | 1064 | 158 | 1067 | 158 | 24 | 946 | 178 | 946 | 178 | 947 | 178 |
| 483.xalancbmk | 24 | 612 | 271 | 609 | 272 | 611 | 271 | 24 | 612 | 271 | 609 | 272 | 611 | 271 |

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

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

Platform Notes

vm.zone_reclaim_mode = 1 in /etc/sysctl.conf file
BIOS Settings:
Power Management = Maximum Performance (Default = Active Power Controller)

General Notes

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/libic1.1-32bit -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

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: basepeak = yes

429.mcf: basepeak = yes

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/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.20100330.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.20100330.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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