



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 10.7

PowerEdge M805 (AMD Opteron 2344 HE, 1.7 GHz)

SPECint_base2006 = 8.89

CPU2006 license: 55

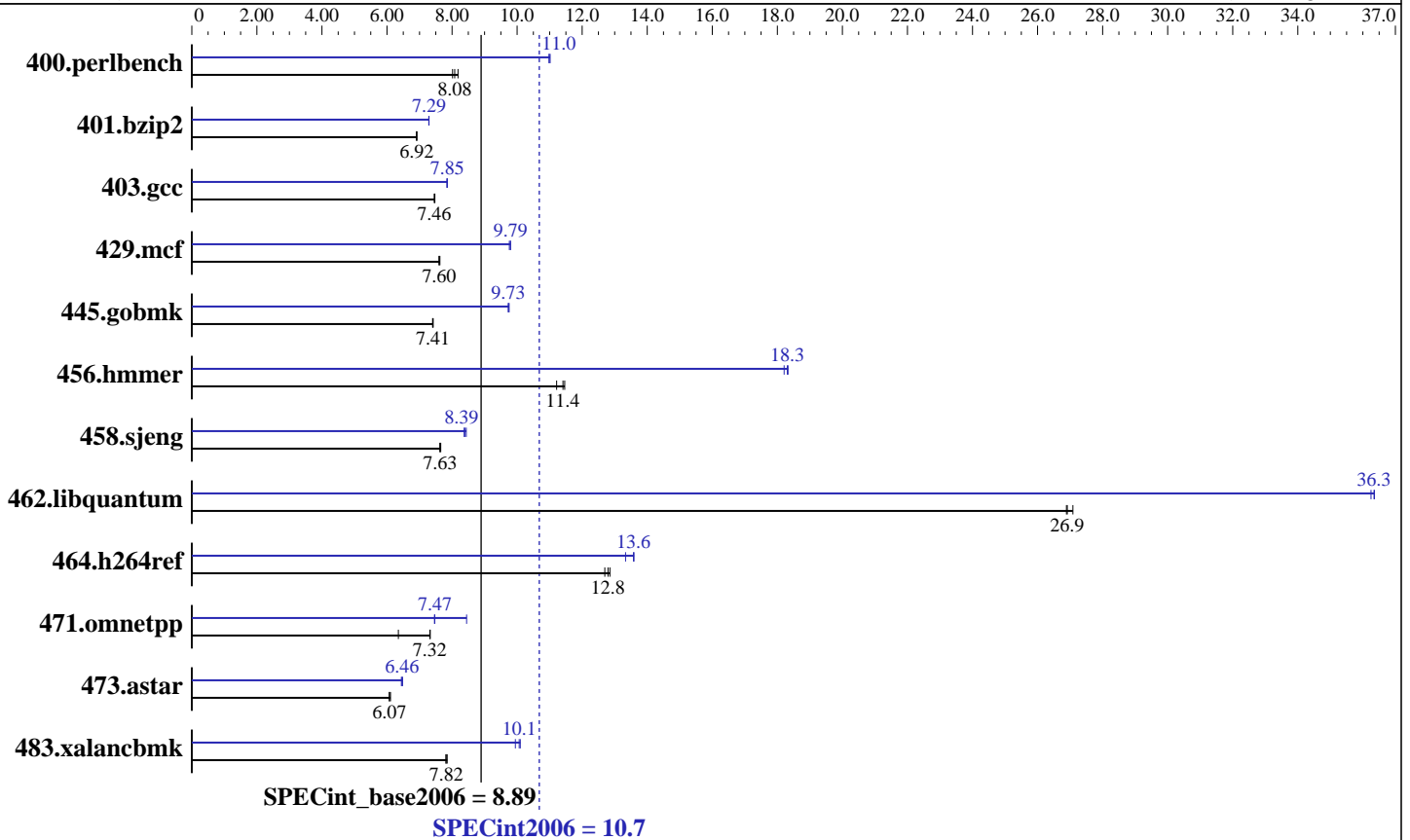
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Apr-2008

Tested by: Dell Inc.

Software Availability: Aug-2008



Hardware

CPU Name: AMD Opteron 2344 HE
 CPU Characteristics:
 CPU MHz: 1700
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 2 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 2 MB I+D on chip per chip
 Other Cache: None
 Memory: 16 GB (8 x 2 GB DDR2-667 Dual Rank)
 Disk Subsystem: 1 x 73 15000 RPM SATA
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp
 Compiler: PGI Server Complete Version 7.2 PathScale Compiler Suite Version 3.2
 Auto Parallel: No
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap 8.1 32-bit Library for Linux



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	1219	8.02	<u>1209</u>	<u>8.08</u>	1194	8.18	890	11.0	887	11.0	<u>889</u>	<u>11.0</u>
401.bzip2	<u>1395</u>	<u>6.92</u>	1397	6.91	1395	6.92	1323	7.29	1325	7.29	<u>1324</u>	<u>7.29</u>
403.gcc	1079	7.46	1077	7.47	<u>1079</u>	<u>7.46</u>	<u>1026</u>	<u>7.85</u>	1025	7.85	1026	7.85
429.mcf	1196	7.63	1200	7.60	<u>1199</u>	<u>7.60</u>	934	9.76	931	9.80	<u>931</u>	<u>9.79</u>
445.gobmk	1414	7.42	1417	7.40	<u>1415</u>	<u>7.41</u>	1075	9.75	<u>1078</u>	<u>9.73</u>	1078	9.73
456.hammer	814	11.5	<u>818</u>	<u>11.4</u>	832	11.2	<u>510</u>	<u>18.3</u>	509	18.3	512	18.2
458.sjeng	1581	7.65	<u>1585</u>	<u>7.63</u>	1587	7.63	1434	8.44	1445	8.37	<u>1442</u>	<u>8.39</u>
462.libquantum	<u>770</u>	<u>26.9</u>	771	26.9	765	27.1	<u>570</u>	<u>36.3</u>	570	36.4	572	36.3
464.h264ref	<u>1730</u>	<u>12.8</u>	1722	12.9	1743	12.7	<u>1630</u>	<u>13.6</u>	1660	13.3	1628	13.6
471.omnetpp	853	7.33	<u>854</u>	<u>7.32</u>	984	6.35	838	7.46	740	8.45	<u>837</u>	<u>7.47</u>
473.astar	1156	6.07	1149	6.11	<u>1156</u>	<u>6.07</u>	1083	6.48	<u>1086</u>	<u>6.46</u>	1090	6.44
483.xalancbmk	879	7.85	<u>883</u>	<u>7.82</u>	883	7.81	694	9.95	683	10.1	<u>686</u>	<u>10.1</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

'ulimit -s unlimited' was used to set environment stack size
'ulimit -l 2457600' was used to set environment locked pages in memory limit
Environment variable PGI_HUGE_PAGES set to 896
Set vm/nr_hugepages=1792 in /etc/sysctl.conf
mount -t hugetlbfs nodev /mnt/hugepages

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/root/cpu2006-1.1/amd729gh-libs:/root/cpu2006-1.1/amd729gh-libs/32:\\$LD_LIBRARY_PATH"

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgcpp



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Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```

Base Optimization Flags

C benchmarks:

```

-fastsse -Msmartalloc=huge:150 -Mfprelaxed -Mipa=fast -Mipa=inline
-tp barcelona-64 -Bstatic_pgi

```

C++ benchmarks:

```

-fastsse -Msmartalloc=huge:150 -Mfprelaxed --zc_eh -Mipa=fast
-Mipa=inline -tp barcelona -Bstatic_pgi

```

Base Other Flags

C benchmarks:

-Mipa=jobs:4

C++ benchmarks:

-Mipa=jobs:4

Peak Compiler Invocation

C benchmarks (except as noted below):

pgcc

400.perlbench: pathcc

403.gcc: pathcc

445.gobmk: pathcc

464.h264ref: pathcc

C++ benchmarks (except as noted below):

pathCC

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Peak Compiler Invocation (Continued)

473.astar: pgcpp

Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

```

Peak Optimization Flags

C benchmarks:

```

400.perlbench: -march=barcelona -fb_create fbdata(pass 1)
               -fb_opt fbdata(pass 2) -Ofast -IPA:plimit=20000 -LNO:opt=0
               -WOPT:if_conv=0 -CG:local_sched_alg=1

401.bzip2: -Mpfi=indirect(pass 1) -Mpfo=indirect(pass 2) -fastsse -O4
           -Msmartalloc=huge:150 -Mprefetch=t0 -Mnounroll
           -tp barcelona-64 -Bstatic_pgi

403.gcc: -march=barcelona -fb_create fbdata(pass 1)
          -fb_opt fbdata(pass 2) -O3 -OPT:Ofast -m32

429.mcf: -fastsse -Msmartalloc=huge:150 -Mipa=fast -Mipa=inline:1
          -tp barcelona -Bstatic_pgi

445.gobmk: -march=barcelona -fb_create fbdata(pass 1)
           -fb_opt fbdata(pass 2) -O3 -OPT:alias=restrict
           -LNO:prefetch=1 -LNO:ignore_feedback=off -CG:p2align=on

456.hmmmer: -fastsse -Mvect=partial -Munroll=n:8 -Msmartalloc=huge:150
           -Msafeptr -Mprefetch=t0 -Mfprelaxed -Mipa=const -Mipa=ptr
           -Mipa=arg -Mipa=inline -tp barcelona-64 -Bstatic_pgi

458.sjeng: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
           -Mipa=inline:1(pass 2) -Mipa=noarg(pass 2) -fastsse
           -Msmartalloc=huge:150 -Mfprelaxed -tp barcelona-64
           -Bstatic_pgi

462.libquantum: -fastsse -Munroll=m:8 -Msmartalloc=huge:150
                -Mprefetch=distance:4 -Mfprelaxed -Mipa=fast -Mipa=inline
                -Mipa=noarg -tp barcelona-64 -Bstatic_pgi

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Peak Optimization Flags (Continued)

464.h264ref: -march=barcelona -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -O3 -IPA:plimit=20000
-OPT:alias=disjoint -LNO:prefetch=0 -CG:ptr_load_use=0
-CG:push_pop_int_saved_regs=off

C++ benchmarks:

471.omnetpp: -march=barcelona -Ofast -CG:gcm=off -INLINE:aggressive=on
-OPT:alias=disjoint -WOPT:if_conv=0 -m32 -lsmarheap

473.astar: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=fast(pass 2)
-Mipa=inline:6(pass 2) -fastsse -O4 -Msmartalloc=huge:150
-Msafeptr=global -Mfprelaxed --zc_eh -tp barcelona
-Bstatic_pgi

483.xalancbmk: -march=barcelona -Ofast -OPT:unroll_times_max=8
-CG:push_pop_int_saved_regs=off -CG:ptr_load_use=0 -m32
-lsmarheap

Peak Other Flags

C benchmarks:

429.mcf: -Mipa=jobs:4

456.hmmer: -Mipa=jobs:4

458.sjeng: -Mipa=jobs:4(pass 2)

462.libquantum: -Mipa=jobs:4

C++ benchmarks (except as noted below):

-L/root/work/libraries/SmartHeap-8.1/lib

473.astar: -Mipa=jobs:4(pass 2)

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/amd729gh-flags.html>

<http://www.spec.org/cpu2006/flags/amd-platform.20090713.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/amd729gh-flags.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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