SPEC® CINT2006 Result

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Hewlett-Packard Company

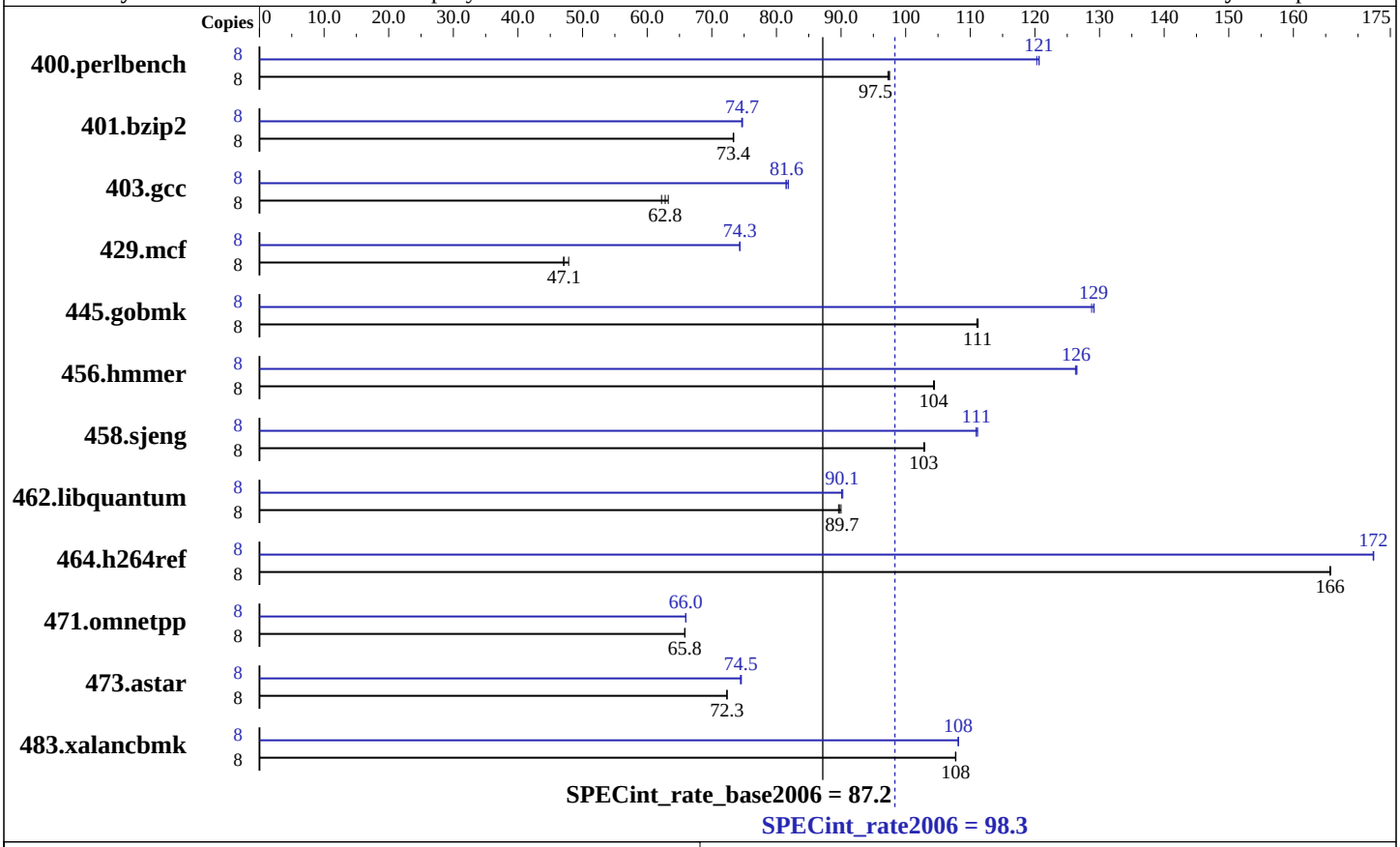
ProLiant DL585 G2 (AMD Opteron 8220 SE)

SPECint®_rate2006 = 98.3

SPECint_rate_base2006 = 87.2

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Mar-2007
Hardware Availability: Sep-2006
Software Availability: Sep-2006



Hardware

CPU Name:	AMD Opteron 8220 SE
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	2,4 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	None
Other Cache:	None
Memory:	32 GB (16x2GB, PC2-5300P CL5)
Disk Subsystem:	2x72 GB 10 K SAS
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 9 (x86-64) SP3 SuSE kernel 2.6.5-7.244-smp
Compiler:	QLogic PathScale Compiler Suite, Release 2.5
Auto Parallel:	No
File System:	ext2
System State:	Multi-user run level 3
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap 8.0 32 bit Library for Linux

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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	8	804	97.3	**802**	**97.5**	802	97.5	8	650	120	648	121	**648**	**121**
401.bzip2	8	1052	73.4	**1052**	**73.4**	1053	73.3	8	1033	74.8	**1034**	**74.7**	1034	74.6
403.gcc	8	1018	63.3	**1026**	**62.8**	1035	62.2	8	**789**	**81.6**	787	81.9	790	81.5
429.mcf	8	1525	47.8	1550	47.1	**1548**	**47.1**	8	981	74.3	**981**	**74.3**	982	74.3
445.gobmk	8	**755**	**111**	755	111	756	111	8	652	129	**650**	**129**	650	129
456.hmmer	8	715	104	715	104	**715**	**104**	8	591	126	**590**	**126**	590	127
458.sjeng	8	**941**	**103**	942	103	940	103	8	**872**	**111**	871	111	873	111
462.libquantum	8	1850	89.6	1842	90.0	**1847**	**89.7**	8	**1839**	**90.1**	1840	90.1	1836	90.3
464.h264ref	8	1068	166	1069	166	**1069**	**166**	8	**1027**	**172**	1027	172	1027	172
471.omnetpp	8	759	65.9	760	65.8	**759**	**65.8**	8	**758**	**66.0**	758	66.0	758	66.0
473.astar	8	776	72.3	776	72.4	**776**	**72.3**	8	**754**	**74.5**	753	74.6	754	74.5
483.xalancbmk	8	**512**	**108**	512	108	512	108	8	510	108	**510**	**108**	511	108

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Platform Notes

```
Node interleaving is disabled
```

General Notes

```
taskset utility used to bind CPU(s) to processes
Binaries supplied by AMD
```

Base Compiler Invocation

C benchmarks:
`pathcc`

C++ benchmarks:
`pathCC`

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`

Continued on next page

Base Portability Flags (Continued)

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:
-Ofast

C++ benchmarks:
-Ofast -m32
-L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap

Base Other Flags

C benchmarks:
-IPA:max_jobs=2

C++ benchmarks:
-IPA:max_jobs=2

Peak Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -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

Peak Optimization Flags

C benchmarks:

400.perlbench: `-fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast`

401.bzip2: `-O3 -LNO:ou_prod_max=10 -OPT:Ofast -OPT:alias=disjoint`

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

429.mcf: `-m32 -O2 -ipa -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

445.gobmk: `-fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -OPT:alias=disjoint -LNO:simd=0 -LNO:minvariant=off -WOPT:retype_expr=on`

456.hmmer: `-O2 -OPT:alias=disjoint -WOPT:aggstr=0 -CG:cflow=0`

458.sjeng: `-fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -IPA:plimit=50000 -IPA:pu_reorder=2`

462.libquantum: `-O3 -ipa -CG:local_fwd_sched=on -IPA:space=1000`

464.h264ref: `-fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -IPA:plimit=20000 -OPT:alias=disjoint -LNO:prefetch=0`

C++ benchmarks:

471.omnetpp: `-Ofast -IPA:pu_reorder=2 -CG:gcm=off -m32 -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

473.astar: `-fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast -m32 -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

483.xalancbmk: `-Ofast -m32 -OPT:unroll_times_max=8 -L/spec/mpaton/6v1.0/amd512K8.lib/microquill/lib -lsmartheap`

Peak Other Flags

C benchmarks:
`-IPA:max_jobs=2`

C++ benchmarks:
`-IPA:max_jobs=2`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.21.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.21.xml

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