SPEC® CINT2006 Result

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Hewlett-Packard Company

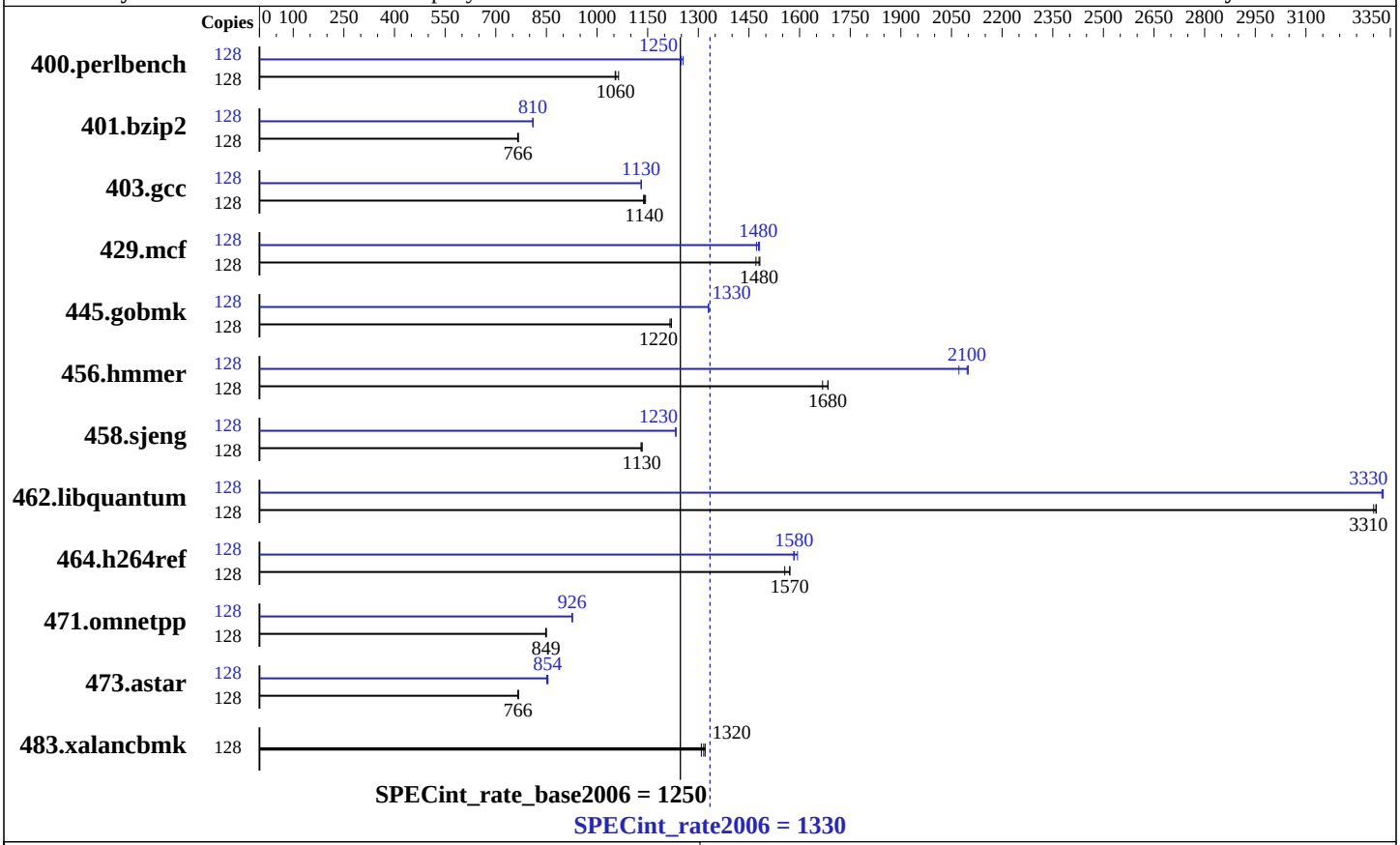
ProLiant DL980 G7 (2.00 GHz, Intel Xeon X6550)

SPECint®_rate2006 = 1330

SPECint_rate_base2006 = 1250

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

Test date: Sep-2010
Hardware Availability: Oct-2010
Software Availability: Jun-2010



Hardware

CPU Name:	Intel Xeon X6550
CPU Characteristics:	Intel Turbo Boost Technology up to 2.40 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	64 cores, 8 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	4, 8 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:	1 TB (128 x 8 GB PC3-10600R dual-rank)
Disk Subsystem:	2 x 146 GB 15K SAS
Other Hardware:	512 MB Flash Backed Write Controller Module for P410i Smart Array

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP1 Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20100414 Package ID: l_cproc_p_11.1.072
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 none

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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	128	1175	1060	1187	1050	**1185**	**1060**	128	996	1260	1002	1250	**1001**	**1250**
401.bzip2	128	**1613**	**766**	1615	765	1610	767	128	**1525**	**810**	1526	810	1523	811
403.gcc	128	906	1140	901	1140	**903**	**1140**	128	911	1130	912	1130	**911**	**1130**
429.mcf	128	**789**	**1480**	787	1480	794	1470	128	788	1480	793	1470	**790**	**1480**
445.gobmk	128	1100	1220	1104	1220	**1101**	**1220**	128	1009	1330	1010	1330	**1010**	**1330**
456.hmmer	128	709	1680	**709**	**1680**	716	1670	128	**570**	**2100**	576	2070	569	2100
458.sjeng	128	1370	1130	1367	1130	**1367**	**1130**	128	**1256**	**1230**	1256	1230	1256	1230
462.libquantum	128	802	3310	804	3300	**802**	**3310**	128	**797**	**3330**	797	3330	798	3330
464.h264ref	128	1803	1570	1820	1560	**1803**	**1570**	128	1777	1590	1790	1580	**1788**	**1580**
471.omnetpp	128	944	848	942	850	**942**	**849**	128	864	926	863	927	**863**	**926**
473.astar	128	1173	766	1172	767	**1173**	**766**	128	1052	854	**1052**	**854**	1056	851
483.xalancbmk	128	669	1320	675	1310	**671**	**1320**	128	669	1320	675	1310	**671**	**1320**

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
SPEC files placed in /dev/shm/cpu2006 with /dev/shm
mounted as tempfs with mpol=interleave
The mpol=interleave option sets the NUMA memory allocation
policy for all files to allocate from each node in turn.
```

Platform Notes

```
 Power Regulator set to HP Static High Performance Mode
```

Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

C++ benchmarks:

```
icpc -m32
```

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/dev/shm/cpu2006/libic11.1-32bit -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

Continued on next page

Peak Portability Flags (Continued)

456.hmmer: -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: -xSSE4.2 -ipo -O3 -no-prec-div -static

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.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: -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/dev/shm/cpu2006/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/dev/shm/cpu2006/libic11.1-64bit -lsmartheap64`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100511.html`
`http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100511.xml`
`http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.xml`

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

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