SPEC® CINT2006 Result

Hewlett-Packard Company

ProLiant BL680c G5
(2.4 GHz, Intel Xeon E7340)

SPECint®_rate2006 = 188

SPECint_rate_base2006 = 157

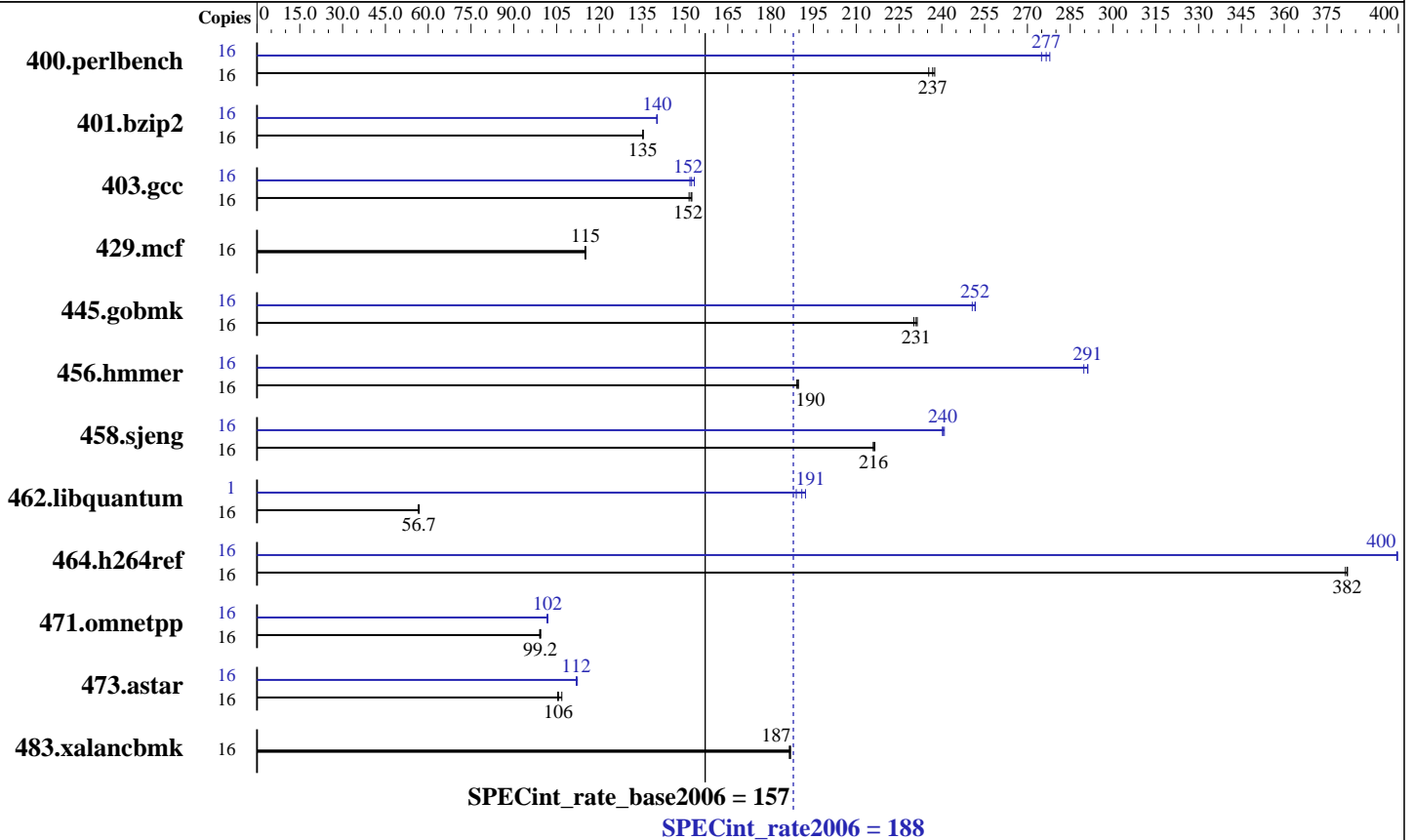|	
CPU2006 license: 3	**Test date:** Jan-2008
Test sponsor: Hewlett-Packard Company	**Hardware Availability:** Jan-2008
Tested by: Hewlett-Packard Company	**Software Availability:** Sep-2007

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Hardware

CPU Name:	Intel Xeon E7340
CPU Characteristics:	2.4GHz, 2x4 MB L2 shared, 1066MHz system bus
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	16 cores, 4 chips, 4 cores/chip
CPU(s) orderable:	2,4 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	64 GB (16x4 GB PC2-5300F CL5)
Disk Subsystem:	1x146 GB 10 K SAS
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.1, Kernel 2.6.18-53.el5
Compiler:	Intel C++ Compiler for applications running on IA-32 and Intel 64, Version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ext2
System State:	Multi-user run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 8.1

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	658	238	664	235	**660**	**237**	16	**565**	**277**	569	275	563	278
401.bzip2	16	1142	135	1141	135	**1141**	**135**	16	1100	140	1102	140	**1101**	**140**
403.gcc	16	851	151	**847**	**152**	845	152	16	849	152	**846**	**152**	840	153
429.mcf	16	1269	115	**1267**	**115**	1267	115	16	1269	115	**1267**	**115**	1267	115
445.gobmk	16	729	230	725	231	**727**	**231**	16	667	252	**667**	**252**	670	251
456.hmmer	16	789	189	**787**	**190**	787	190	16	513	291	515	290	**513**	**291**
458.sjeng	16	**896**	**216**	896	216	894	217	16	806	240	**805**	**240**	804	241
462.libquantum	16	5865	56.5	**5843**	**56.7**	5831	56.9	1	**109**	**191**	108	192	110	189
464.h264ref	16	927	382	**927**	**382**	928	381	16	886	399	**886**	**400**	886	400
471.omnetpp	16	1006	99.4	1009	99.1	**1008**	**99.2**	16	984	102	981	102	**982**	**102**
473.astar	16	1066	105	**1063**	**106**	1051	107	16	**1004**	**112**	1001	112	1004	112
483.xalancbmk	16	**591**	**187**	592	187	590	187	16	**591**	**187**	592	187	590	187

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0
```

Platform Notes

```
BIOS configuration:
   Power Regulator set to Static High Performance Mode
   Adjacent Sector Prefetch Disabled
   Hardware Prefetcher Disabled
```

Base Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks:
```
icpc
```

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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:

```
-fast -inline-calloc -opt-malloc-options=3
```

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/cpu2006/SmartHeap_8.1/lib -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc
```

```
401.bzip2: /opt/intel/cce/10.1.008/bin/icc
       -L/opt/intel/cce/10.1.008/lib
       -I/opt/intel/cce/10.1.008/include
```

```
456.hmmer: /opt/intel/cce/10.1.008/bin/icc
       -L/opt/intel/cce/10.1.008/lib
       -I/opt/intel/cce/10.1.008/include
```

C++ benchmarks:
```
icpc
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
```

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Peak Portability Flags (Continued)

> 483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

> 400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
> -prefetch

> 401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

> 403.gcc: -fast -inline-calloc -opt-malloc-options=3

> 429.mcf: basepeak = yes

> 445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
> -no-prec-div -ansi-alias

> 456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

> 458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

> 462.libquantum: -fast -unroll4 -Ob0 -prefetch
> -opt-streaming-stores always -vec-guard-write
> -opt-malloc-options=3 -parallel -par-runtime-control

> 464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
> -ansi-alias

C++ benchmarks:

> 471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
> -no-prec-div -ansi-alias -opt-ra-region-strategy=block
> -Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap

> 473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
> -no-prec-div -ansi-alias -opt-ra-region-strategy=routine
> -Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap

> 483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090713.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090713.xml

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

Tested with SPEC CPU2006 v1.0.
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