SPEC® CINT2006 Result

Hewlett-Packard Company

ProLiant DL580 G7
(2.27 GHz, Intel Xeon X7560)

SPECint®_rate2006 = 382

SPECint_rate_base2006 = 355
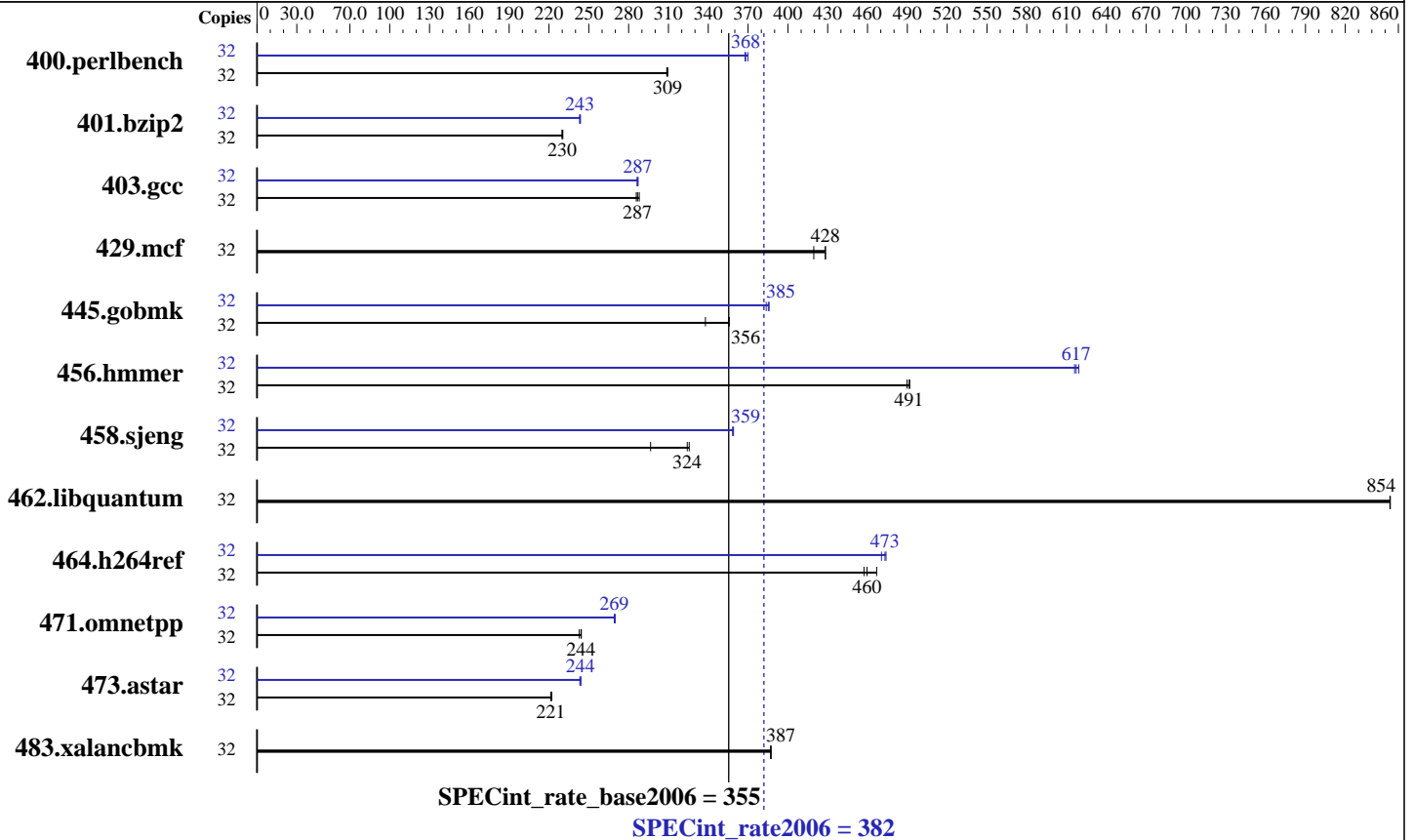
CPU2006 license: 3   **Test date:** Jun-2010

Test sponsor: Hewlett-Packard Company   **Hardware Availability:** Jun-2010

Tested by: Hewlett-Packard Company   **Software Availability:** Mar-2010

Copies axis: 0 30.0 70.0 100 130 160 190 220 250 280 310 340 370 400 430 460 490 520 550 580 610 640 670 700 730 760 790 820 860

- 400.perlbench: 32 / 368; 32 / 309
- 401.bzip2: 32 / 243; 32 / 230
- 403.gcc: 32 / 287; 32 / 287
- 429.mcf: 32 / 428
- 445.gobmk: 32 / 385; 32 / 356
- 456.hmmer: 32 / 617; 32 / 491
- 458.sjeng: 32 / 359; 32 / 324
- 462.libquantum: 32 / 854
- 464.h264ref: 32 / 473; 32 / 460
- 471.omnetpp: 32 / 269; 32 / 244
- 473.astar: 32 / 244; 32 / 221
- 483.xalancbmk: 32 / 387

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Hardware

CPU Name:	Intel Xeon X7560
CPU Characteristics:	Intel Turbo Boost Technology up to 2.67 GHz
CPU MHz:	2267
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 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:	24 MB I+D on chip per chip
Other Cache:	None
Memory:	512 GB (32 x 16 GB 4Rx4 PC3-8500R CL7)
Disk Subsystem:	2 x 146 GB 15 k SAS
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.5 Advanced Platform, Kernel 2.6.18-194.el5
Compiler:	Intel C++ Compiler 11.1 for Linux Build 20090827 Package ID: l_cproc_p_11.1.056
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 Binutils 2.17.50.0.6-12.el5

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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	32	**1011**	**309**	1013	309	1011	309	32	845	370	850	368	**849**	**368**
401.bzip2	32	1340	230	1344	230	**1342**	**230**	32	1267	244	**1270**	**243**	1270	243
403.gcc	32	894	288	**898**	**287**	901	286	32	900	286	897	287	**898**	**287**
429.mcf	32	696	420	**682**	**428**	681	428	32	696	420	**682**	**428**	681	428
445.gobmk	32	993	338	943	356	**944**	**356**	32	870	386	**871**	**385**	875	384
456.hmmer	32	610	490	**608**	**491**	607	492	32	482	619	485	616	**484**	**617**
458.sjeng	32	1306	297	**1194**	**324**	1189	326	32	1080	358	1078	359	**1080**	**359**
462.libquantum	32	777	854	**777**	**854**	777	854	32	777	854	**777**	**854**	777	854
464.h264ref	32	**1541**	**460**	1517	467	1548	457	32	**1497**	**473**	1494	474	1505	471
471.omnetpp	32	818	244	824	243	**819**	**244**	32	741	270	743	269	**743**	**269**
473.astar	32	1011	222	**1015**	**221**	1015	221	32	924	243	**921**	**244**	920	244
483.xalancbmk	32	570	387	**570**	**387**	570	387	32	570	387	**570**	**387**	570	387

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

```
     BIOS configuration:
      Power Profile set to Maximum Performance
      Thermal Configuration set to Increased Cooling
```

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:
```
-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/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/Compiler/11.1/056/bin/intel64/icc
```
```
456.hmmer: /opt/intel/Compiler/11.1/056/bin/intel64/icc
```
```
458.sjeng: /opt/intel/Compiler/11.1/056/bin/intel64/icc
```

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

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

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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: `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/cpu2006/SmartHeap_8.1/lib -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/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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revF.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-revF.xml
http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.xml

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

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