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 date:**	Sep-2010
Test sponsor: Hewlett-Packard Company	**Hardware Availability:**	Oct-2010
Tested by: Hewlett-Packard Company	**Software Availability:**	Jun-2010

SPECint_rate_base2006 = 1250

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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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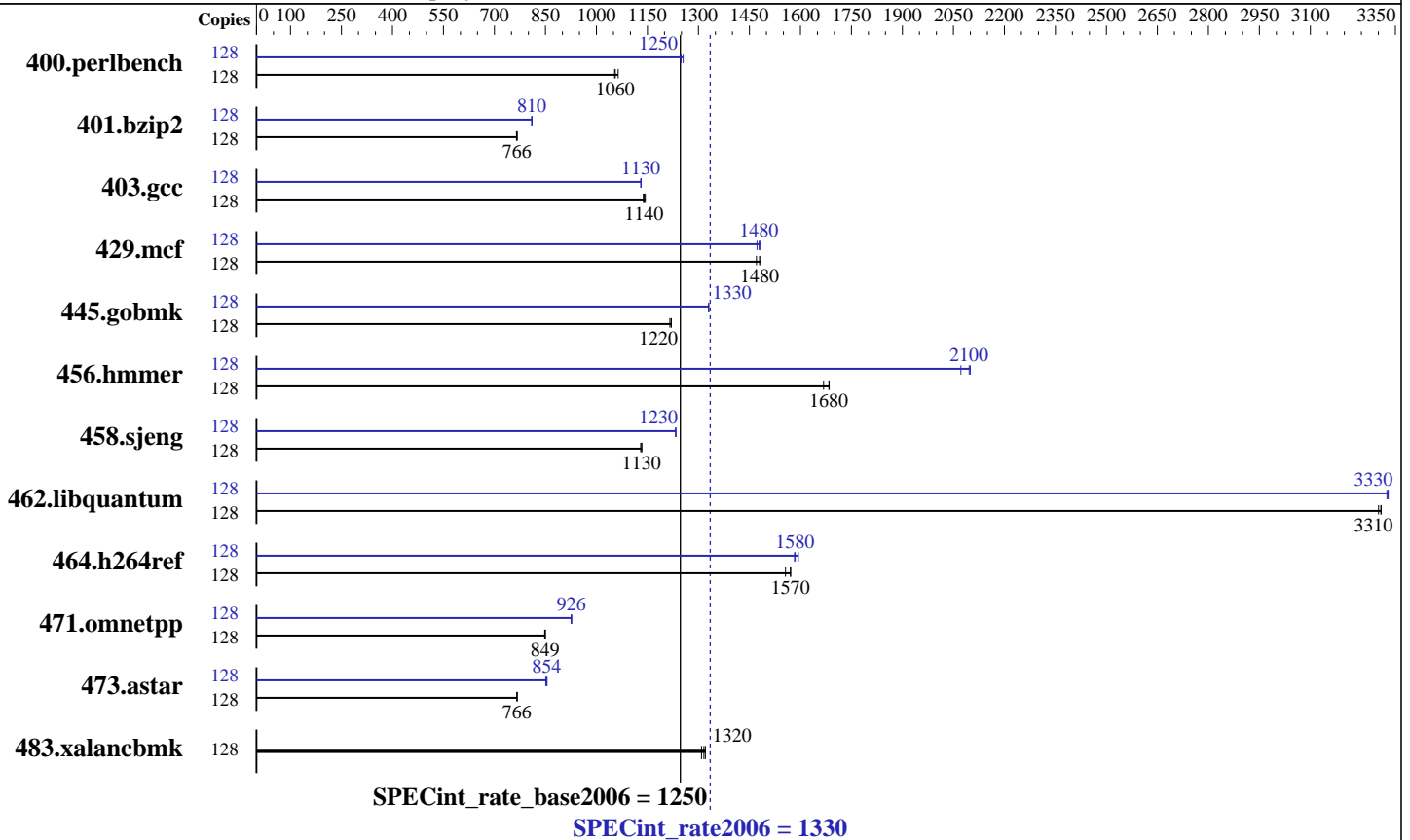SPECint_rate_base2006 = 1250

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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

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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/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
```

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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

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

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