SPEC® CINT2006 Result
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NEC Corporation

Express5800/B120b-d
(Intel Xeon L5640)

$SPECint^®_rate2006 = $ 150

$SPECint_rate_base2006 = $ 140

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: May-2010
Hardware Availability: Apr-2010
Software Availability: Dec-2009

SPECint_rate_base2006 = 140

SPECint_rate2006 = 150

Hardware	**Software**
CPU Name: Intel Xeon L5640	Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz	Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
CPU MHz: 2267	
FPU: Integrated	
CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core	Auto Parallel: No
CPU(s) orderable: 1,2 chips	File System: ext3
Primary Cache: 32 KB I + 32 KB D on chip per core	System State: Run level 3 (multi-user)
Secondary Cache: 256 KB I+D on chip per core	Base Pointers: 32-bit
L3 Cache: 12 MB I+D on chip per chip	Peak Pointers: 32/64-bit
Other Cache: None	Other Software: Microquill SmartHeap V8.1
Memory: 48 GB (6 x 8 GB PC3-10600R, 2 rank, CL9, ECC)	
Disk Subsystem: 1x146.5 GB SAS, 10000 RPM in Express5800/AD106a	
Other Hardware: None	

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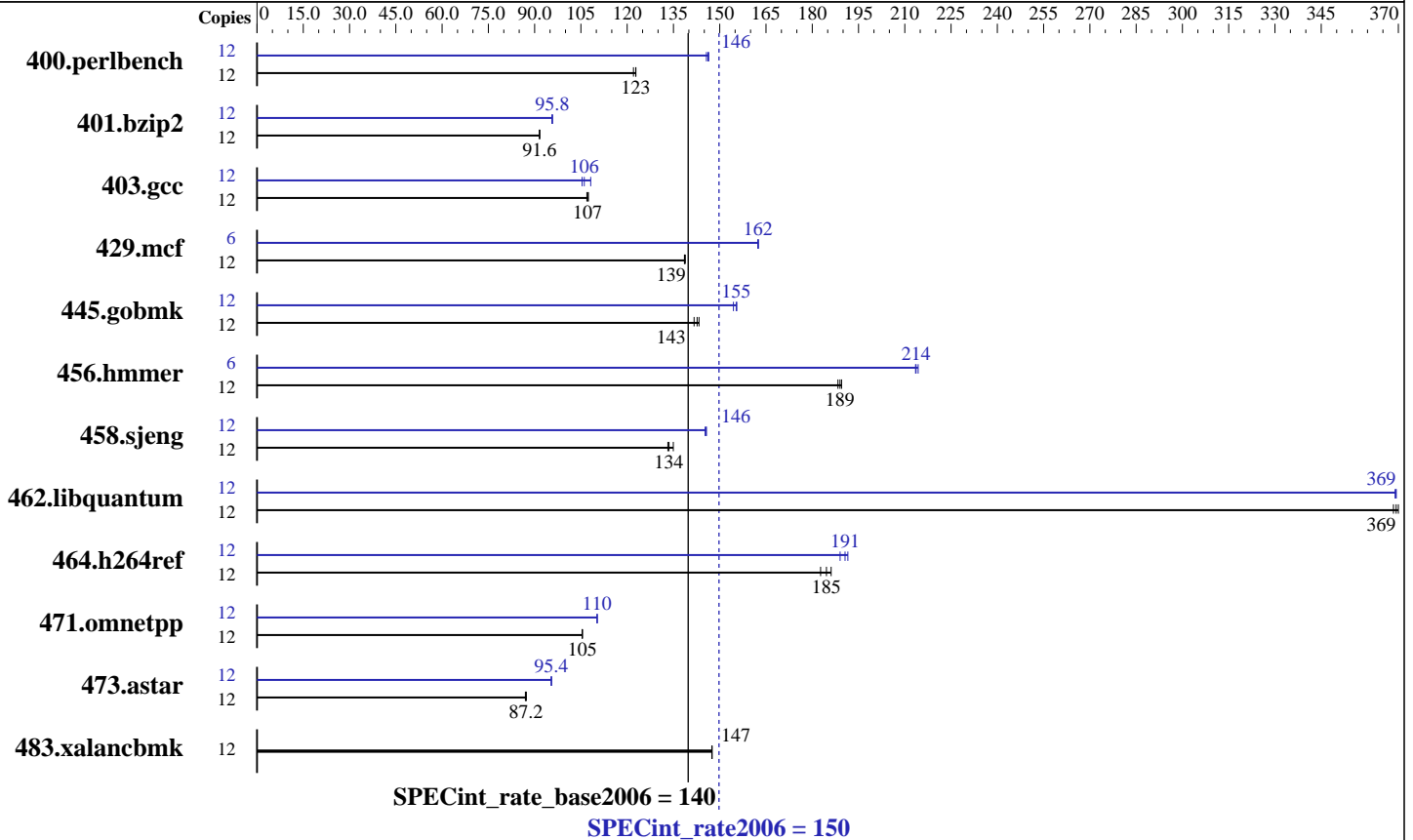
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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	12	**955**	**123**	955	123	961	122	12	801	146	805	146	**802**	**146**
401.bzip2	12	**1264**	**91.6**	1264	91.6	1265	91.5	12	1209	95.8	1211	95.6	**1209**	**95.8**
403.gcc	12	899	107	903	107	**901**	**107**	12	893	108	**911**	**106**	917	105
429.mcf	12	**790**	**139**	788	139	790	139	6	337	162	337	163	**337**	**162**
445.gobmk	12	**882**	**143**	888	142	879	143	12	815	154	809	156	**810**	**155**
456.hmmer	12	594	188	**592**	**189**	591	190	6	261	214	**262**	**214**	262	213
458.sjeng	12	**1087**	**134**	1090	133	1076	135	12	**997**	**146**	1000	145	997	146
462.libquantum	12	672	370	675	368	**673**	**369**	12	674	369	673	369	**673**	**369**
464.h264ref	12	1427	186	**1439**	**185**	1454	183	12	**1393**	**191**	1386	192	1405	189
471.omnetpp	12	711	105	711	105	**711**	**105**	12	**680**	**110**	680	110	680	110
473.astar	12	968	87.0	965	87.3	**967**	**87.2**	12	**883**	**95.4**	883	95.4	882	95.5
483.xalancbmk	12	**561**	**147**	561	148	562	147	12	**561**	**147**	561	148	562	147

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

```
    Default BIOS settings were used.
```

Base Compiler Invocation

```
C benchmarks:
     icc  -m32

C++ benchmarks:
     icpc -m32
```

Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
```

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Base Portability Flags (Continued)

```
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/opt/SmartHeap_8.1/lib -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
456.hmmer: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

```
       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/opt/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/opt/SmartHeap_8.1/lib64 -lsmartheap64
```

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(Intel Xeon L5640)

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Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100609.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100609.xml

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

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