SPEC® CINT2006 Result
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NEC Corporation

SPECint®_rate2006 = 137

Express5800/R110d-1E (Intel Xeon E3-1220)
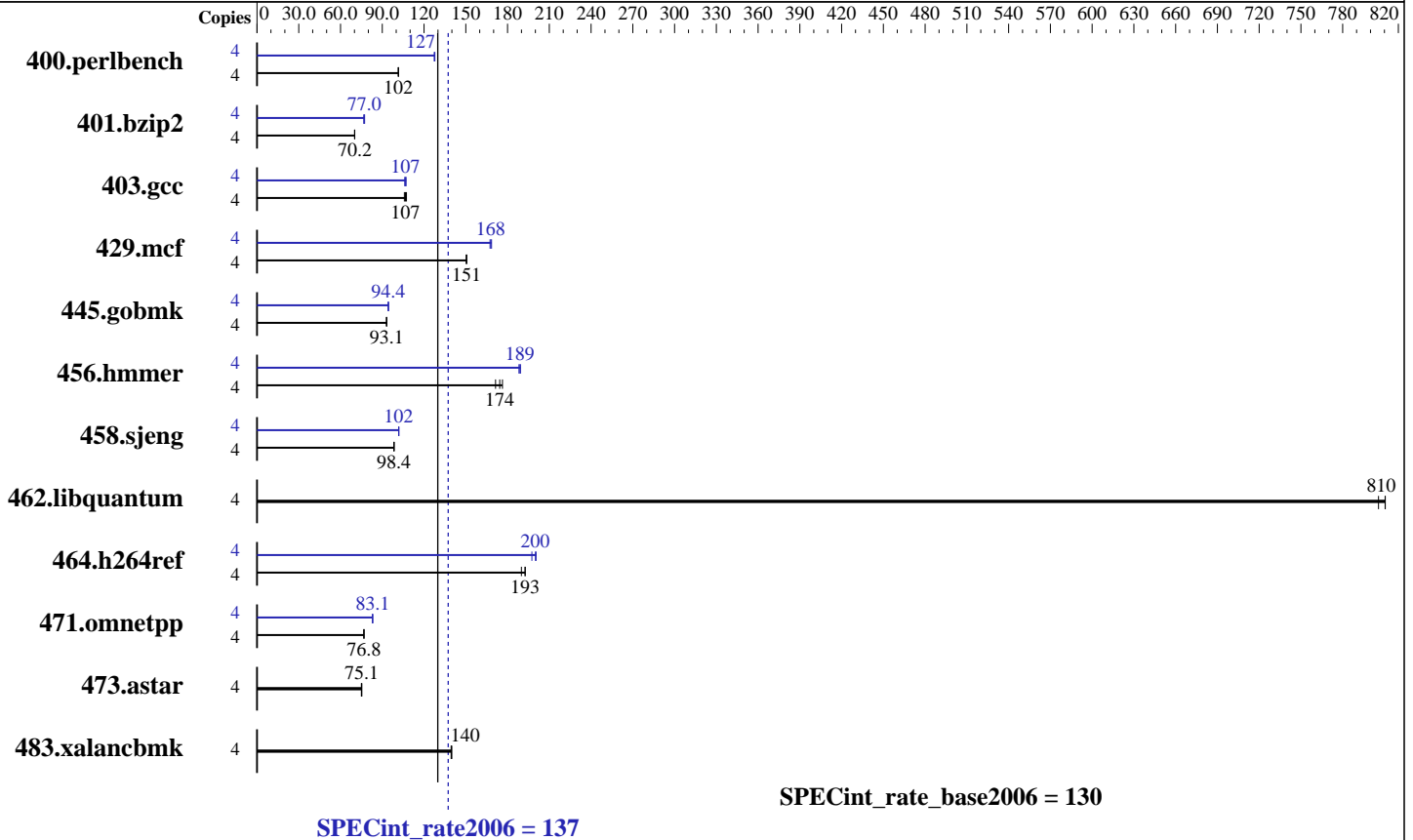
SPECint_rate_base2006 = 130

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

Test date: Aug-2011
Hardware Availability: Jun-2011
Software Availability: Mar-2011

SPECint_rate_base2006 = 130

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Hardware

CPU Name:	Intel Xeon E3-1220
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	3100
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem:	1 x 160 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Compiler XE for applications running on IA32, Version 12.0.3.174 Build 20110309
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

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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	4	384	102	**385**	**102**	385	101	4	307	127	**307**	**127**	306	128
401.bzip2	4	551	70.1	**550**	**70.2**	550	70.2	4	503	76.7	499	77.3	**501**	**77.0**
403.gcc	4	300	107	304	106	**302**	**107**	4	**302**	**107**	303	106	301	107
429.mcf	4	243	150	**242**	**151**	242	151	4	218	167	216	169	**217**	**168**
445.gobmk	4	**451**	**93.1**	451	93.0	450	93.3	4	445	94.2	**445**	**94.4**	444	94.5
456.hmmer	4	**214**	**174**	212	176	218	171	4	197	189	**198**	**189**	198	188
458.sjeng	4	**492**	**98.4**	492	98.4	492	98.5	4	476	102	475	102	**475**	**102**
462.libquantum	4	102	811	**102**	**810**	103	806	4	102	811	**102**	**810**	103	806
464.h264ref	4	459	193	**460**	**193**	466	190	4	**443**	**200**	448	197	441	201
471.omnetpp	4	326	76.8	**325**	**76.8**	325	76.9	4	301	83.1	301	82.9	**301**	**83.1**
473.astar	4	373	75.3	**374**	**75.1**	375	75.0	4	373	75.3	**374**	**75.1**	375	75.0
483.xalancbmk	4	197	140	198	139	**198**	**140**	4	197	140	198	139	**198**	**140**

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
    Huge pages were not configured for this run
```

Platform Notes

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

Base Compiler Invocation

C benchmarks:
```
     icc  -m32
```

C++ benchmarks:
```
     icpc -m32
```

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CPU2006 license: 9006　　　　　　　　　　　　　　　　　　**Test date:**　　Aug-2011
Test sponsor:　NEC Corporation　　　　　　　　　　　　**Hardware Availability:** Jun-2011
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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:

```
    -xAVX -ipo -O3 -no-prec-div -opt-prefetch
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

C++ benchmarks:

```
    -xAVX -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/opt/SmartHeap_8.1/lib -lsmartheap
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

Base Other Flags

C benchmarks:

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

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m32
```

```
    400.perlbench: icc -m64
```

```
      401.bzip2: icc -m64
```

```
     456.hmmer: icc -m64
```

```
      458.sjeng: icc -m64
```

C++ benchmarks:
```
    icpc -m32
```

Peak Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
       401.bzip2: -DSPEC_CPU_LP64
```

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Test sponsor: NEC Corporation		**Hardware Availability:**	Jun-2011
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Peak Portability Flags (Continued)

```
      456.hmmer: -DSPEC_CPU_LP64
      458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LINUX
  483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
  400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -prof-use(pass 2)
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

     401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
                 -auto-ilp32 -ansi-alias
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

      403.gcc: -xAVX -ipo -O3 -no-prec-div
                 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

       429.mcf: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -prof-use(pass 2) -ansi-alias
                 -auto-ilp32

     445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                 -ansi-alias -auto-ilp32

     456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

     458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
                 -auto-ilp32
                 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

  462.libquantum: basepeak = yes

    464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                 -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
                 -ansi-alias
```

C++ benchmarks:

```
    471.omnetpp: -xAVX(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
```

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revF.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revF.xml

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

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