SPEC® CINT2006 Result
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HITACHI

BladeSymphony BS1000 (Intel Xeon X5460)

SPECint®_rate2006 =   137

SPECint_rate_base2006 = 111

Copies

Benchmark	Copies	Value
400.perlbench	8	187
400.perlbench	8	158
401.bzip2	8	117
401.bzip2	8	111
403.gcc	8	95.5
403.gcc	8	95.3
429.mcf	8	78.9
429.mcf	8	79.8
445.gobmk	8	168
445.gobmk	8	156
456.hmmer	8	224
456.hmmer	8	133
458.sjeng	8	161
458.sjeng	8	146
462.libquantum	1	224
462.libquantum	8	50.8
464.h264ref	8	276
464.h264ref	8	265
471.omnetpp	8	61.7
471.omnetpp	8	60.4
473.astar	8	84.8
473.astar	8	79.6
483.xalancbmk	8	130

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Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	1333MHz system bus
CPU MHz:	3160
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1, 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB(8 x 2 GB PC2-5300F CAS 5-5-5)
Disk Subsystem:	1 x 73 GB 10000 rpm SAS
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.1 (Tikanga) Kernel 2.6.18-53.el5 on an x86_64
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ext3
System State:	Multi-user run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	SmartHeap library V8.1

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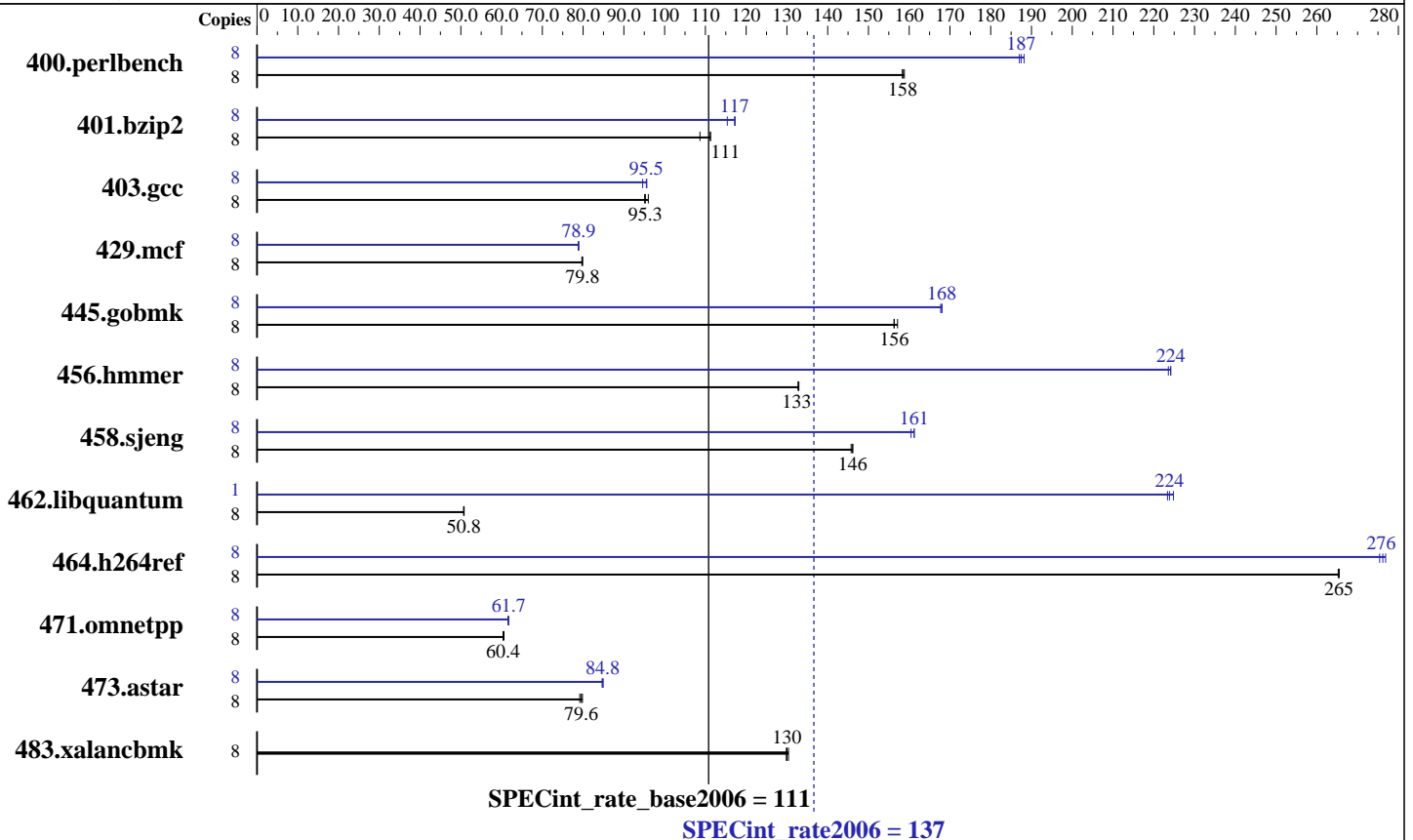| SPECint_rate2006 =	137
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CPU2006 license: 872
Test sponsor: HITACHI
Tested by: HITACHI

Test date: Feb-2008
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
400.perlbench	8	492	159	**493**	**158**	494	158	8	**417**	**187**	418	187	415	188
401.bzip2	8	710	109	**694**	**111**	694	111	8	658	117	**659**	**117**	669	115
403.gcc	8	677	95.1	**676**	**95.3**	671	96.0	8	**674**	**95.5**	681	94.6	673	95.6
429.mcf	8	913	79.9	**914**	**79.8**	916	79.7	8	**925**	**78.9**	926	78.8	924	78.9
445.gobmk	8	534	157	537	156	**537**	**156**	8	499	168	500	168	**500**	**168**
456.hmmer	8	561	133	562	133	**562**	**133**	8	333	224	334	224	**333**	**224**
458.sjeng	8	664	146	662	146	**663**	**146**	8	**600**	**161**	603	160	600	161
462.libquantum	8	3262	50.8	3270	50.7	**3266**	**50.8**	1	92.2	225	92.8	223	**92.6**	**224**
464.h264ref	8	667	265	**667**	**265**	667	265	8	639	277	643	275	**641**	**276**
471.omnetpp	8	825	60.6	828	60.4	**828**	**60.4**	8	812	61.6	**810**	**61.7**	810	61.7
473.astar	8	709	79.2	**706**	**79.6**	703	79.8	8	**662**	**84.8**	663	84.7	661	84.9
483.xalancbmk	8	423	130	425	130	**425**	**130**	8	423	130	425	130	**425**	**130**

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

General Notes

```
'/bin/taskset' used to bind processes to CPUs
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
```

Base Compiler Invocation

C benchmarks:
```
icc
```

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

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
```

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Base Optimization Flags (Continued)

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/bsc/smartheap/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
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

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

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Peak Optimization Flags (Continued)

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

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

429.mcf: `-fast -prefetch`

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/home/bsc/smartheap/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/home/bsc/smartheap/lib  -lsmartheap`

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-ic10.1-INT-ia32-linux-flags.20090713.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.01.xml

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

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