SPEC® CINT2006 Result

Bull SAS

NovaScale R422
(Intel Xeon processor X5365,3.00GHz)

$SPECint®_rate2006 = $ 112

$SPECint_rate_base2006 = $ 95.3

CPU2006 license: 20	**Test date:** Oct-2007
Test sponsor: Bull SAS	**Hardware Availability:** Sep-2007
Tested by: Bull SAS	**Software Availability:** Nov-2007

Copies

- **400.perlbench** — 8: 170 / 8: 148
- **401.bzip2** — 8: 78.8 / 8: 65.6
- **403.gcc** — 8: 79.0 / 8: 80.6
- **429.mcf** — 8: 64.5 / 8: 63.6
- **445.gobmk** — 8: 160 / 8: 147
- **456.hmmer** — 8: 194 / 8: 123
- **458.sjeng** — 8: 149 / 8: 139
- **462.libquantum** — 1: 117 / 8: 49.6
- **464.h264ref** — 8: 247 / 8: 233
- **471.omnetpp** — 8: 51.9 / 8: 50.5
- **473.astar** — 8: 72.0 / 8: 68.0
- **483.xalancbmk** — 8: 112

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Hardware

CPU Name: Intel Xeon X5365
CPU Characteristics: 3.00 GHz, 8 MB L2, 1333 MHz system bus
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable: 1 to 2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem: 1x147 GB SAS, 15000 RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux AS Release 4 Update 4
Kernel 2.6.9-42.ELsmp for x86_64
Compiler: Intel C++ Compiler for Linux32 and Linux64
version 10.1
Build 20070725
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
Binutils 2.17.50.0.15

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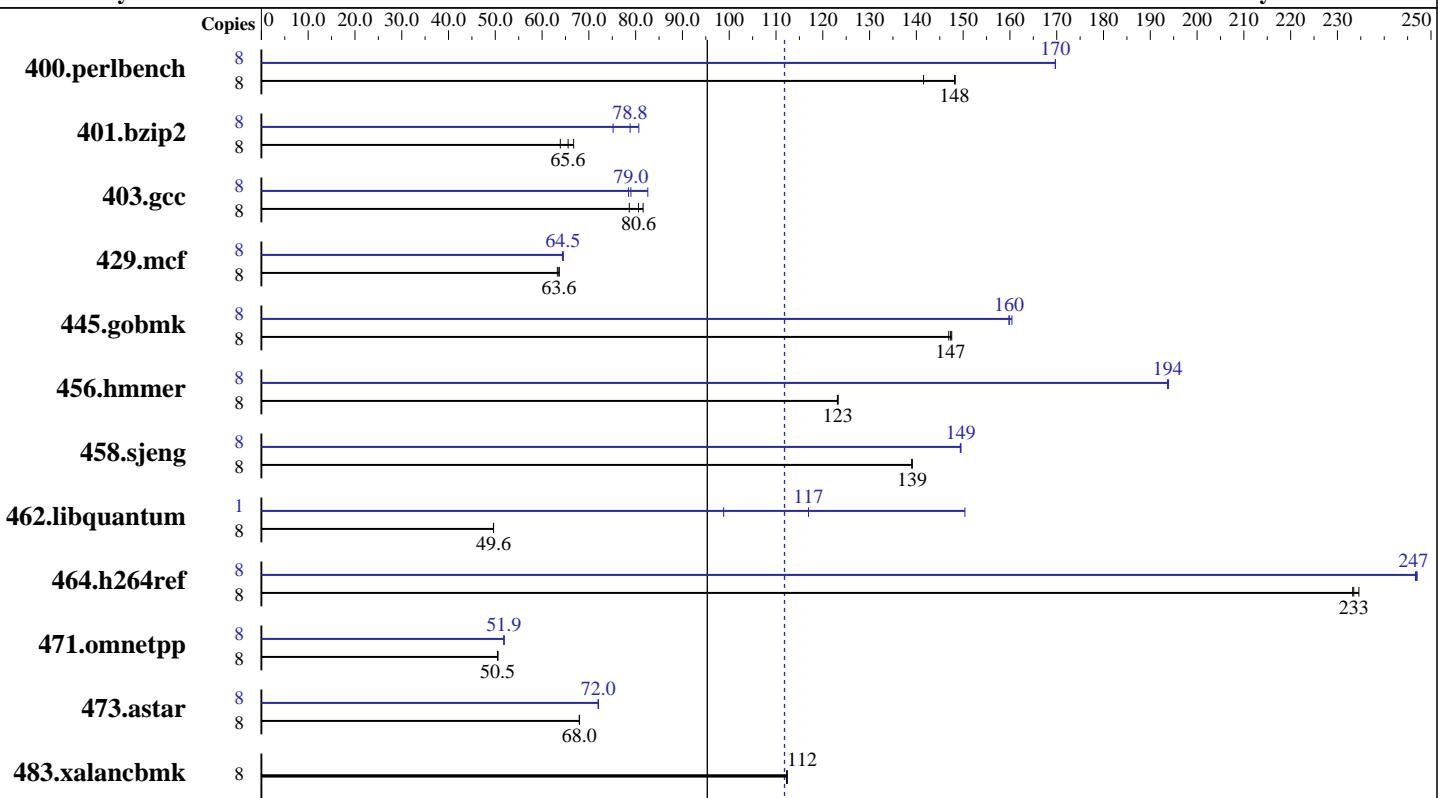
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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	552	142	527	148	**528**	**148**	8	461	170	460	170	**461**	**170**
401.bzip2	8	1208	63.9	**1177**	**65.6**	1157	66.7	8	1027	75.2	957	80.7	**979**	**78.8**
403.gcc	8	**799**	**80.6**	819	78.6	789	81.6	8	**815**	**79.0**	821	78.5	780	82.6
429.mcf	8	**1147**	**63.6**	1153	63.3	1146	63.7	8	1131	64.5	1134	64.3	**1132**	**64.5**
445.gobmk	8	**570**	**147**	569	148	571	147	8	**525**	**160**	523	160	525	160
456.hmmer	8	606	123	606	123	**606**	**123**	8	**385**	**194**	385	194	385	194
458.sjeng	8	696	139	696	139	**696**	**139**	8	**648**	**149**	648	149	647	150
462.libquantum	8	3341	49.6	3340	49.6	**3340**	**49.6**	1	210	98.8	**177**	**117**	138	150
464.h264ref	8	**758**	**233**	759	233	755	235	8	718	247	**717**	**247**	717	247
471.omnetpp	8	**990**	**50.5**	991	50.5	989	50.6	8	964	51.9	**964**	**51.9**	964	51.8
473.astar	8	**826**	**68.0**	827	67.9	826	68.0	8	780	72.0	779	72.1	**780**	**72.0**
483.xalancbmk	8	491	112	**491**	**112**	492	112	8	491	112	**491**	**112**	492	112

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer
for peak, are compiled in 64-bit mode

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

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Base Optimization Flags

C benchmarks:
```
-fast -inline-calloc -opt-malloc-options=3
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap
```

Base Other Flags

C benchmarks:

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

Peak Compiler Invocation

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

```
401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
          -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
          -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include
```

```
456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
          -L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
          -I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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:

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Peak Optimization Flags (Continued)

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

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/cmplr/usr3/alrahate/cpu2006.1.0/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/cmplr/usr3/alrahate/cpu2006.1.0/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/EM64T_Intel101_flags.20090714.00.html

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You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.20090714.00.xml

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

Tested with SPEC CPU2006 v1.0.
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