SPEC® CINT2006 Result
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Bull SAS

NovaScale B260
(Intel Xeon E5450, 3.00 GHz)

$SPECint^®\_rate2006 =$ 122

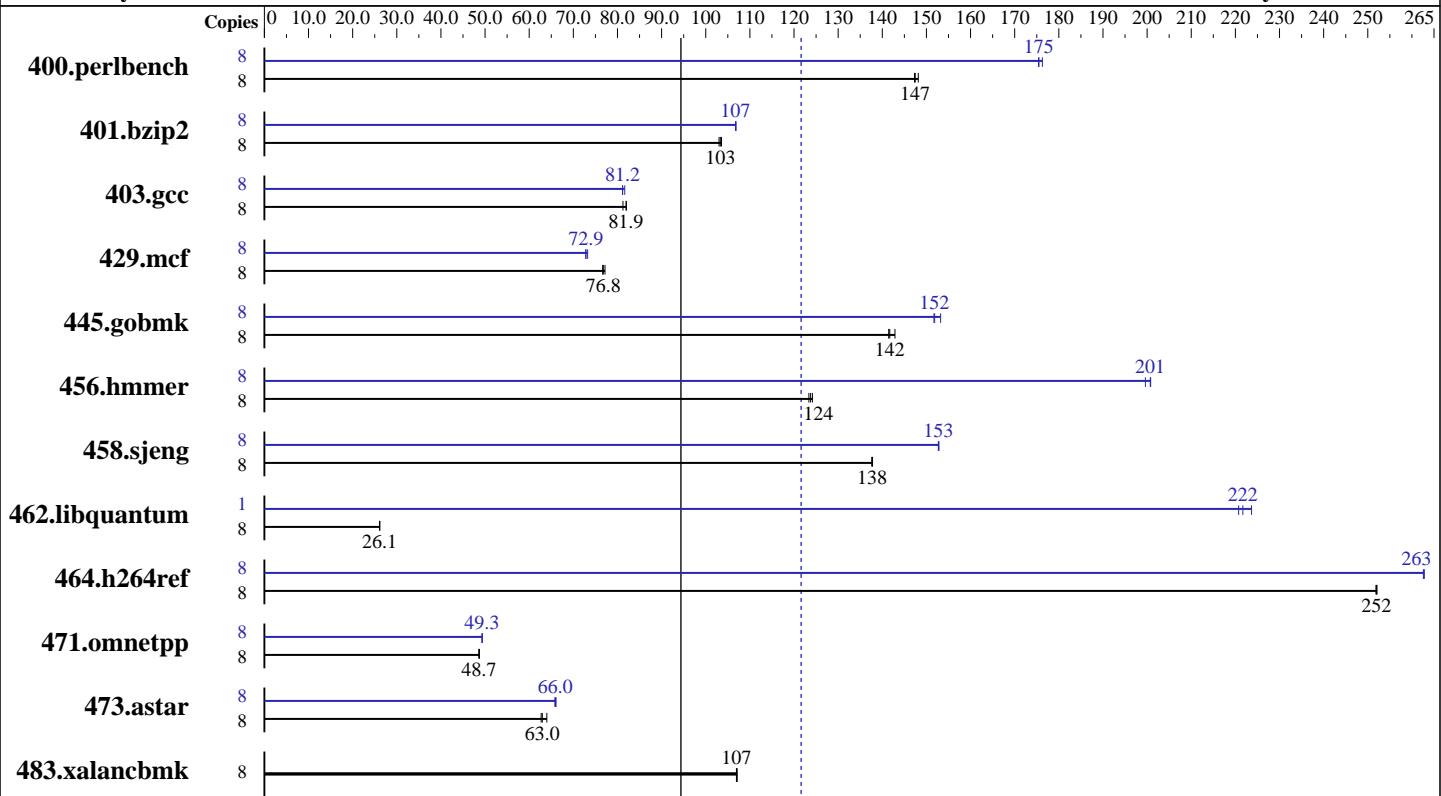SPECint_rate_base2006 = 94.4

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: Nov-2007

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SPECint_rate2006 = 122

Benchmark	Copies	Base	Peak
400.perlbench	8	147	175
401.bzip2	8	103	107
403.gcc	8	81.9	81.2
429.mcf	8	76.8	72.9
445.gobmk	8	142	152
456.hmmer	8	124	201
458.sjeng	8	138	153
462.libquantum	8 / 1	26.1	222
464.h264ref	8	252	263
471.omnetpp	8	48.7	49.3
473.astar	8	63.0	66.0
483.xalancbmk	8	107	

Hardware

CPU Name:	Intel Xeon E5450
CPU Characteristics:	1333 MHz system bus
CPU MHz:	3000
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 (4x4 GB) FB-DIMM PC2-5300F ECC CL5
Disk Subsystem:	1x73 GB SAS, 10000 RPM
Other Hardware:	None

Software

Operating System:	SUSE LINUX Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ext2
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Binutils 2.17.50.0.15 SmartHeap library V8.1

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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	**530**	**147**	531	147	528	148	8	**445**	**175**	446	175	443	176
401.bzip2	8	**747**	**103**	745	104	749	103	8	723	107	**723**	**107**	722	107
403.gcc	8	785	82.0	793	81.2	**786**	**81.9**	8	789	81.7	**793**	**81.2**	794	81.1
429.mcf	8	945	77.2	952	76.6	**950**	**76.8**	8	**1001**	**72.9**	1002	72.8	996	73.2
445.gobmk	8	593	141	587	143	**592**	**142**	8	548	153	**553**	**152**	553	152
456.hmmer	8	601	124	605	123	**603**	**124**	8	372	201	**372**	**201**	374	200
458.sjeng	8	703	138	703	138	**703**	**138**	8	**634**	**153**	633	153	634	153
462.libquantum	8	6348	26.1	**6346**	**26.1**	6344	26.1	1	92.6	224	93.9	221	**93.5**	**222**
464.h264ref	8	703	252	**703**	**252**	702	252	8	674	263	**674**	**263**	674	263
471.omnetpp	8	1029	48.6	**1028**	**48.7**	1027	48.7	8	1013	49.3	1013	49.3	**1013**	**49.3**
473.astar	8	896	62.7	**892**	**63.0**	878	64.0	8	850	66.1	853	65.8	**851**	**66.0**
483.xalancbmk	8	516	107	**516**	**107**	515	107	8	516	107	**516**	**107**	515	107

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
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
```

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
BIOS settings :
Hardware Prefetcher :            Enabled
Adjacent Cache-Line Prefetch :   Disabled
```

Base Compiler Invocation

C benchmarks:
```
icc
```

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

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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:
    -fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
    -xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
    -L/spec/cpu2006/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

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Peak Portability Flags (Continued)

    483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

    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/spec/cpu2006/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/spec/cpu2006/lib -lsmartheap`

    483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

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Peak Other Flags (Continued)

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_int_flags.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel101_int_flags.20090714.xml`

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 19:44:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 16 September 2008.