SPEC® CINT2006 Result

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Bull SAS

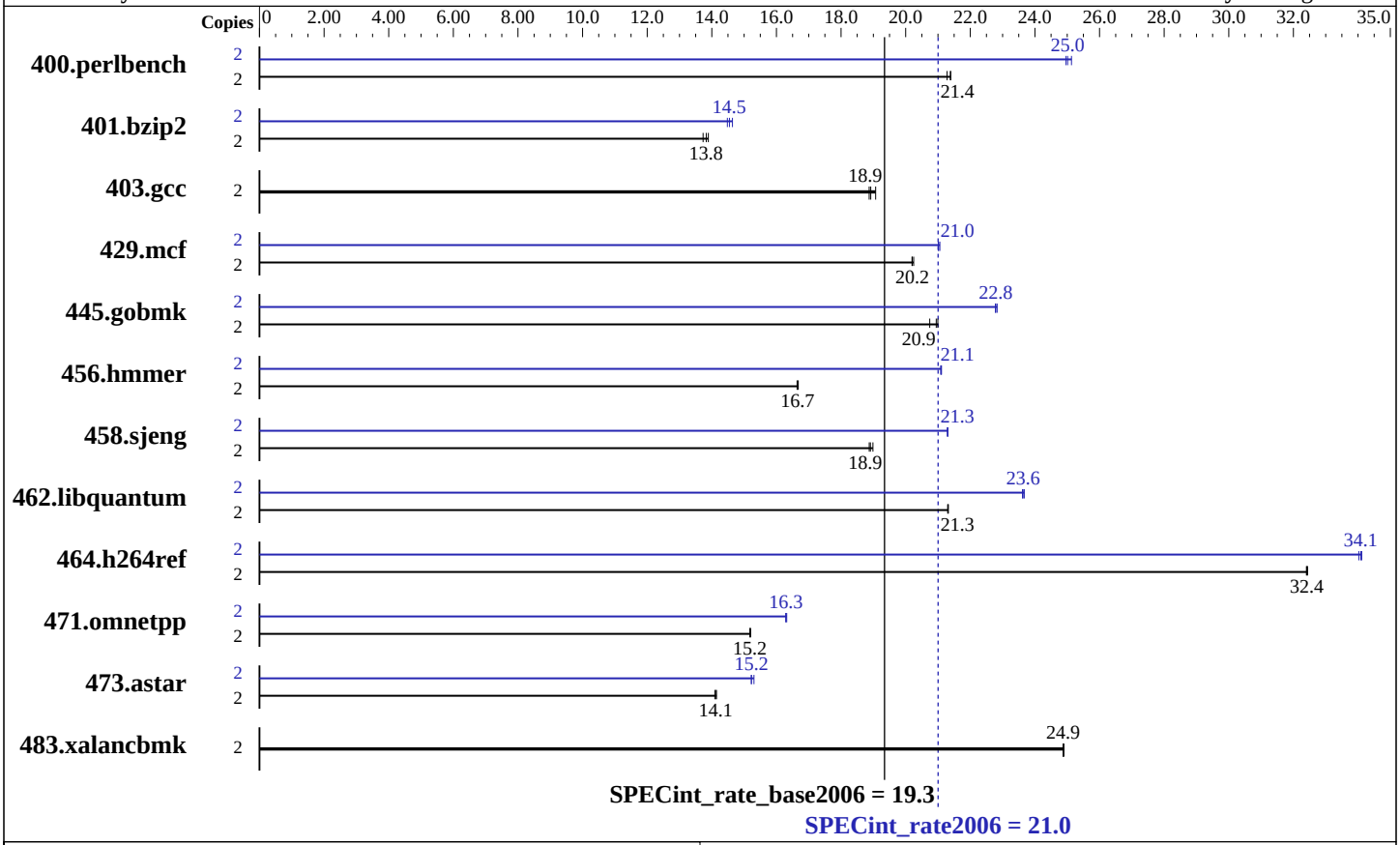
NovaScale T840
(Intel Xeon processor 5110,1.60GHz)

SPECint®_rate2006 = 21.0

SPECint_rate_base2006 = 19.3

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

Test date: Sep-2007
Hardware Availability: Mar-2007
Software Availability: Aug-2007



Hardware

CPU Name:	Intel Xeon 5110
CPU Characteristics:	1.60 GHz, 4 MB L2, 1066 MHz system bus
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 to 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	4 GB (4x1 GB) FB-DIMM PC2-4200F ECC CL4
Disk Subsystem:	1x73 GB SCSI, 15000 RPM
Other Hardware:	None

Software

Operating System:	SUSE LINUX Enterprise Server 10 Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel:	No
File System:	ext2
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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	913	21.4	**914**	**21.4**	918	21.3	2	783	25.0	**781**	**25.0**	778	25.1
401.bzip2	2	1389	13.9	**1396**	**13.8**	1406	13.7	2	1333	14.5	**1327**	**14.5**	1318	14.6
403.gcc	2	844	19.1	**851**	**18.9**	853	18.9	2	844	19.1	**851**	**18.9**	853	18.9
429.mcf	2	903	20.2	**903**	**20.2**	901	20.2	2	**868**	**21.0**	868	21.0	866	21.1
445.gobmk	2	999	21.0	1011	20.7	**1002**	**20.9**	2	919	22.8	**921**	**22.8**	921	22.8
456.hmmer	2	1119	16.7	1121	16.6	**1120**	**16.7**	2	**884**	**21.1**	885	21.1	884	21.1
458.sjeng	2	**1280**	**18.9**	1282	18.9	1275	19.0	2	1137	21.3	**1136**	**21.3**	1136	21.3
462.libquantum	2	1946	21.3	1944	21.3	**1944**	**21.3**	2	1751	23.7	1755	23.6	**1753**	**23.6**
464.h264ref	2	1364	32.4	1366	32.4	**1365**	**32.4**	2	1301	34.0	1297	34.1	**1298**	**34.1**
471.omnetpp	2	**823**	**15.2**	822	15.2	823	15.2	2	**767**	**16.3**	766	16.3	767	16.3
473.astar	2	996	14.1	993	14.1	**994**	**14.1**	2	922	15.2	**922**	**15.2**	917	15.3
483.xalancbmk	2	554	24.9	555	24.9	**555**	**24.9**	2	554	24.9	555	24.9	**555**	**24.9**

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
'/usr/bin/taskset' used to bind processes to CPUs
```

General Notes

```
Bios settings:
Hardware Prefetcher:      Enabled
Adjacent Sector Prefetch: Disabled
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`

Continued on next page

Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast

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/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/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`

401.bzip2: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

403.gcc: `basepeak = yes`

429.mcf: `-fast -prefetch`

445.gobmk: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-xT -O2 -ipo -no-prec_div -ansi-alias`

456.hmmer: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -unroll2 -ansi-alias`

458.sjeng: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -unroll4`

462.libquantum: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always`

464.h264ref: `Same as 456.hmmer`

C++ benchmarks:

471.omnetpp: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-xT -O3 -ipo -no-prec_div -ansi-alias -Wl,-z,muldefs -L/spec/cpu2006/lib -lsmartheap`

473.astar: `Same as 471.omnetpp`

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_Intel100_flags.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.xml`

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