SPEC® CINT2006 Result

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Bull SAS

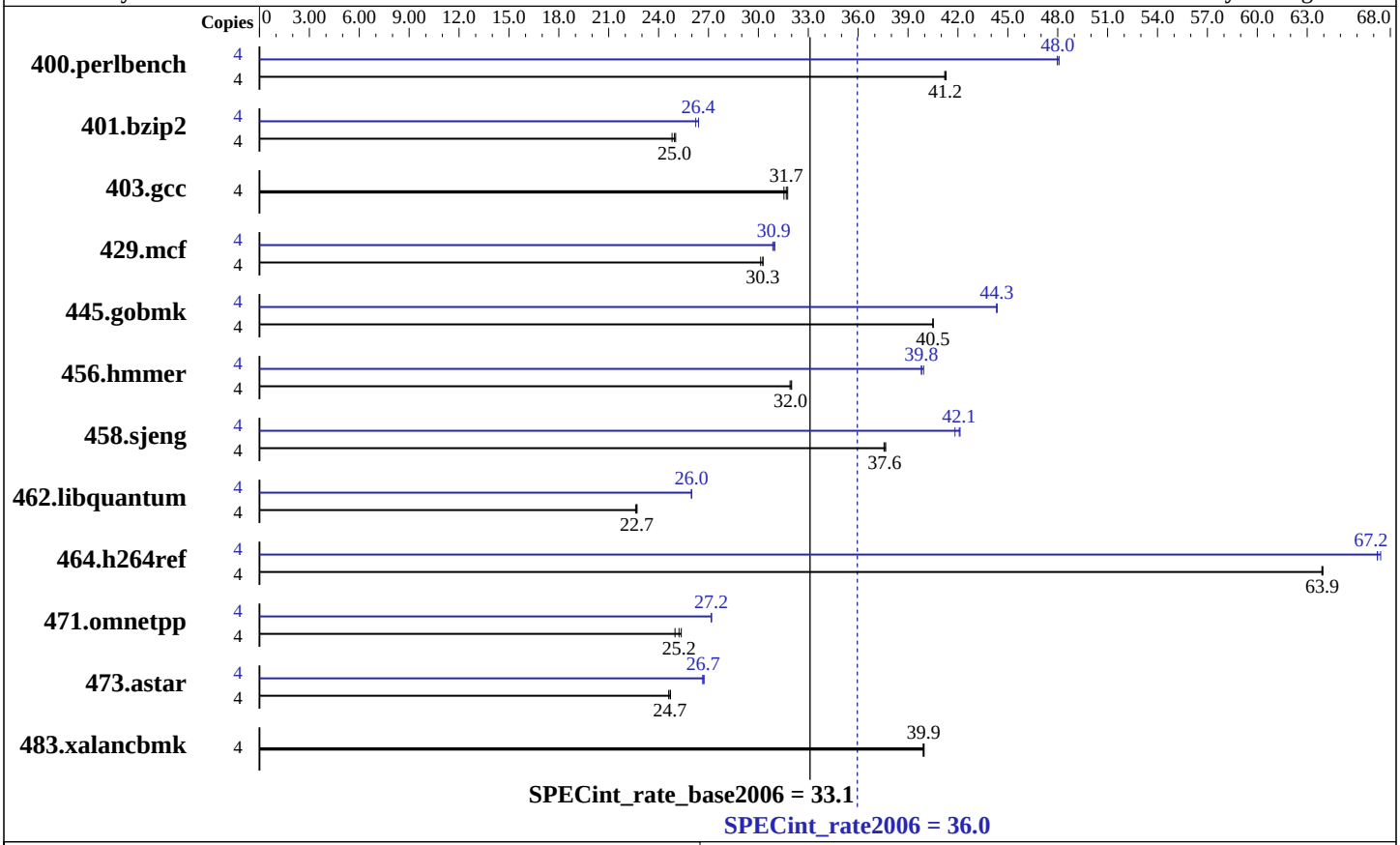
NovaScale T840
(Intel Xeon processor E5310,1.60GHz)

SPECint®_rate2006 = 36.0

SPECint_rate_base2006 = 33.1

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 E5310
CPU Characteristics:	1.60 GHz, 8 MB L2, 1066 MHz system bus
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 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:	8 GB (8x1 GB) FB-DIMM PC2-4200F ECC CL4
Disk Subsystem:	1x73 GB SAS, 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	4	**948**	**41.2**	946	41.3	948	41.2	4	815	48.0	813	48.1	**814**	**48.0**
401.bzip2	4	1542	25.0	1556	24.8	**1547**	**25.0**	4	**1462**	**26.4**	1471	26.2	1462	26.4
403.gcc	4	1021	31.5	**1016**	**31.7**	1014	31.8	4	1021	31.5	**1016**	**31.7**	1014	31.8
429.mcf	4	1211	30.1	**1205**	**30.3**	1205	30.3	4	**1180**	**30.9**	1177	31.0	1182	30.9
445.gobmk	4	1036	40.5	**1036**	**40.5**	1036	40.5	4	**946**	**44.3**	946	44.4	947	44.3
456.hmmer	4	**1167**	**32.0**	1170	31.9	1166	32.0	4	934	39.9	**937**	**39.8**	938	39.8
458.sjeng	4	**1287**	**37.6**	1285	37.7	1289	37.6	4	**1150**	**42.1**	1157	41.8	1149	42.1
462.libquantum	4	3664	22.6	3651	22.7	**3653**	**22.7**	4	**3190**	**26.0**	3188	26.0	3191	26.0
464.h264ref	4	1384	63.9	**1385**	**63.9**	1386	63.9	4	1313	67.4	**1317**	**67.2**	1317	67.2
471.omnetpp	4	**991**	**25.2**	1001	25.0	986	25.4	4	**920**	**27.2**	920	27.2	920	27.2
473.astar	4	1141	24.6	**1137**	**24.7**	1136	24.7	4	1053	26.7	1050	26.7	**1053**	**26.7**
483.xalancbmk	4	**691**	**39.9**	692	39.9	691	40.0	4	**691**	**39.9**	692	39.9	691	40.0

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:      Disabled
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.20090714.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.00.xml`

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