SPEC® CINT2006 Result
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Bull SAS
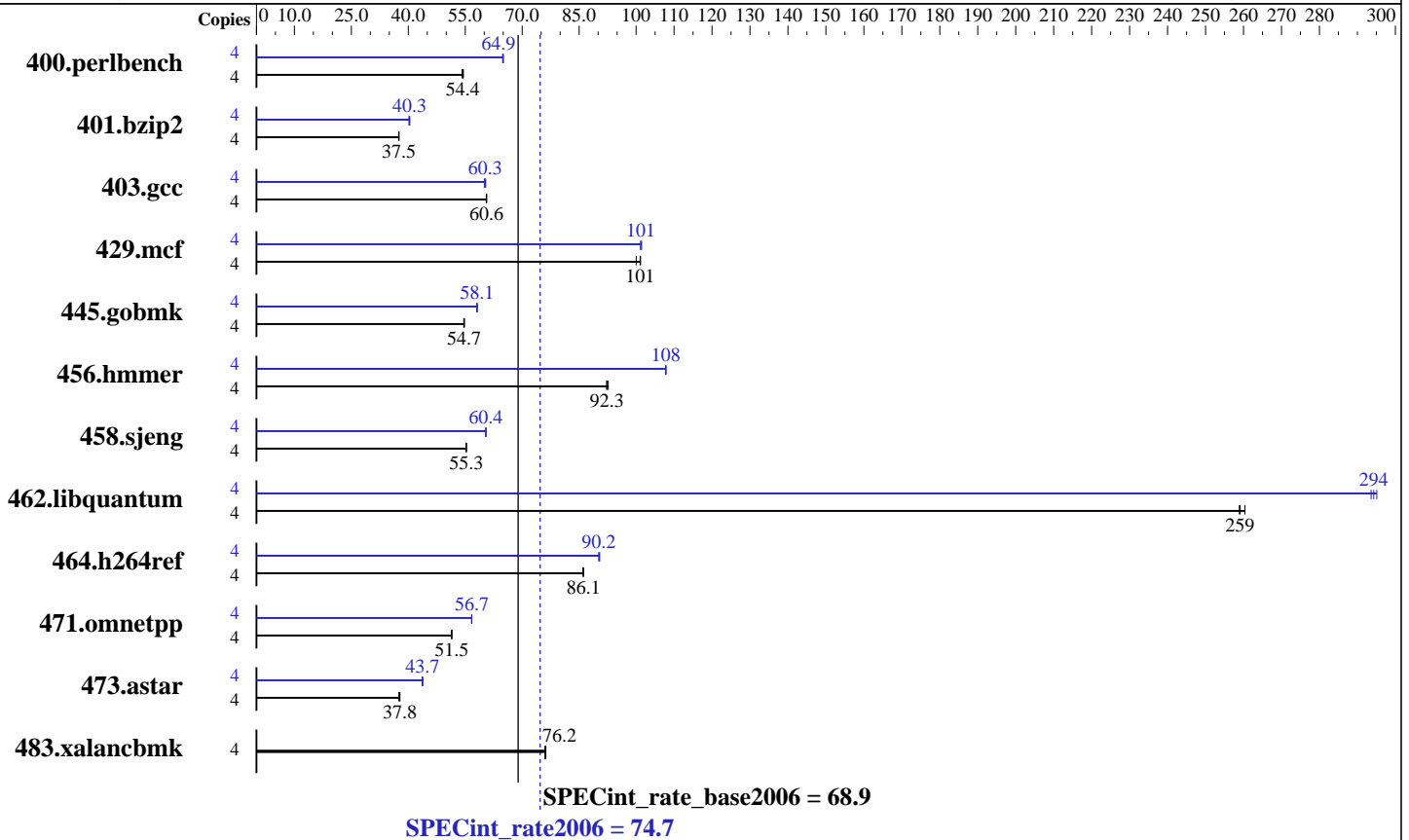
NovaScale R440 F2
(Intel Xeon E5502, 1.86 GHz)

$SPECint®\_rate2006 = 74.7$

$SPECint\_rate\_base2006 = 68.9$

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

Test date: May-2010
Hardware Availability: Jan-2010
Software Availability: Dec-2009

SPECint_rate_base2006 = 68.9
SPECint_rate2006 = 74.7

Hardware

CPU Name: Intel Xeon E5502
CPU Characteristics:
CPU MHz: 1867
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB PC3-10600R, 2 Rank, CL9-9-9, ECC, running at 800 MHz)
Disk Subsystem: 1 x 73 GB SAS, 10000 RPM
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1
Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V8.1

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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	**719**	**54.4**	717	54.5	721	54.2	4	601	65.1	603	64.8	**602**	**64.9**
401.bzip2	4	1031	37.5	**1029**	**37.5**	1028	37.6	4	956	40.4	961	40.2	**957**	**40.3**
403.gcc	4	**531**	**60.6**	532	60.5	531	60.6	4	**534**	**60.3**	533	60.4	537	60.0
429.mcf	4	365	100	361	101	**361**	**101**	4	**360**	**101**	360	101	361	101
445.gobmk	4	768	54.6	766	54.8	**768**	**54.7**	4	721	58.2	723	58.0	**722**	**58.1**
456.hmmer	4	405	92.3	403	92.7	**404**	**92.3**	4	346	108	346	108	**346**	**108**
458.sjeng	4	876	55.3	875	55.3	**876**	**55.3**	4	801	60.5	801	60.4	**801**	**60.4**
462.libquantum	4	318	260	**320**	**259**	320	259	4	**282**	**294**	281	295	282	294
464.h264ref	4	**1028**	**86.1**	1027	86.2	1029	86.0	4	979	90.4	**981**	**90.2**	981	90.2
471.omnetpp	4	486	51.5	**486**	**51.5**	487	51.4	4	441	56.6	**441**	**56.7**	441	56.7
473.astar	4	743	37.8	**744**	**37.8**	748	37.5	4	**642**	**43.7**	641	43.8	643	43.6
483.xalancbmk	4	362	76.2	363	76.0	**362**	**76.2**	4	362	76.2	363	76.0	**362**	**76.2**

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

Submit Notes

    The config file option 'submit' was used.
     numactl was used to bind copies to the cores

Operating System Notes

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

General Notes

    Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
    The Dell PowerEdge R610 and
    the Bull NovaScale R440 F2 models are electronically equivalent.
    The results have been measured on a Bull NovaScale R440 F2 model.

Base Compiler Invocation

C benchmarks:
        icc -m32

C++ benchmarks:
        icpc -m32

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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:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
```

C++ benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap
```

Base Other Flags

C benchmarks:

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

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m32
```

```
      401.bzip2: icc -m64
```

```
      456.hmmer: icc -m64
```

```
      458.sjeng: icc -m64
```

```
    462.libquantum: icc -m64
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

```
      473.astar: icpc -m64
```

Peak Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
        401.bzip2: -DSPEC_CPU_LP64
```

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Test sponsor: Bull SAS		**Hardware Availability:**	Jan-2010
Tested by: Bull SAS		**Software Availability:**	Dec-2009

Peak Portability Flags (Continued)

```
     456.hmmer: -DSPEC_CPU_LP64
      458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
      473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
   400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                  -prof-use(pass 2) -ansi-alias

      401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                  -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

        403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

        429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

      445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
                  -ipo -no-prec-div -ansi-alias

      456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
                  -ansi-alias -auto-ilp32

       458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                  -prof-use(pass 2) -unroll4 -auto-ilp32

  462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
                  -opt-prefetch

     464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                  -prof-use(pass 2) -unroll2 -ansi-alias
```

C++ benchmarks:

```
     471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                  -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
                  -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

       473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                  -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs
```

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Peak Optimization Flags (Continued)

473.astar (continued):
        -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

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-ic11.1-linux64-revE.20100511.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100511.xml

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

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