SPEC® CINT2006 Result
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Bull SAS
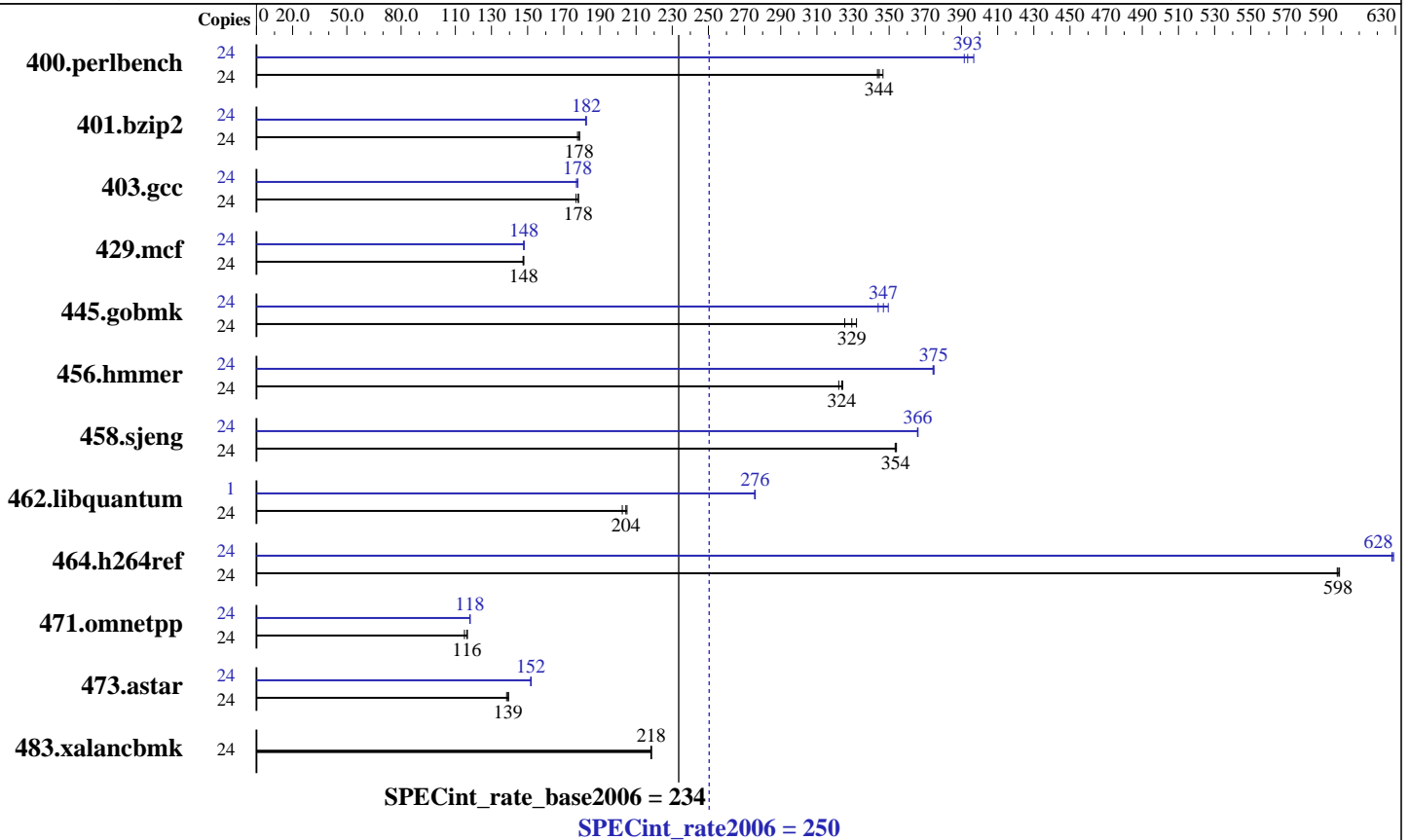
NovaScale R480 E1
(Intel Xeon E7450, 2.40 GHz)

SPECint®_rate2006 = 250

SPECint_rate_base2006 = 234

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

Test date: Dec-2008
Hardware Availability: Nov-2008
Software Availability: Nov-2008

Copies 0 20.0 50.0 80.0 110 130 150 170 190 210 230 250 270 290 310 330 350 370 390 410 430 450 470 490 510 530 550 570 590 630

Benchmark	Copies	Blue	Black
400.perlbench	24 / 24	393	344
401.bzip2	24 / 24	182	178
403.gcc	24 / 24	178	178
429.mcf	24 / 24	148	148
445.gobmk	24 / 24	347	329
456.hmmer	24 / 24	375	324
458.sjeng	24 / 24	366	354
462.libquantum	1 / 24	276	204
464.h264ref	24 / 24	628	598
471.omnetpp	24 / 24	118	116
473.astar	24 / 24	152	139
483.xalancbmk	24		218

SPECint_rate_base2006 = 234

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Hardware

CPU Name:	Intel Xeon E7450
CPU Characteristics:	1066 MHz system bus
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	24 cores, 4 chips, 6 cores/chip
CPU(s) orderable:	1,2,3,4 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	9 MB I+D on chip per chip, 3 MB shared / 2 cores
L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	64 GB (16 x 4GB DDR2-667 FBDIMM)
Disk Subsystem:	1x146 GB SAS, 10000 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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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	24	**681**	**344**	683	344	677	347	24	599	392	591	397	**596**	**393**
401.bzip2	24	1304	178	**1298**	**178**	1296	179	24	1272	182	1269	182	**1270**	**182**
403.gcc	24	1093	177	**1086**	**178**	1084	178	24	1087	178	**1088**	**178**	1092	177
429.mcf	24	1484	147	**1481**	**148**	1481	148	24	1481	148	**1479**	**148**	1479	148
445.gobmk	24	**765**	**329**	774	325	759	332	24	720	349	**726**	**347**	732	344
456.hmmer	24	695	322	**692**	**324**	691	324	24	**598**	**375**	597	375	598	374
458.sjeng	24	822	353	**821**	**354**	820	354	24	**794**	**366**	794	366	794	366
462.libquantum	24	2457	202	**2434**	**204**	2426	205	1	**75.1**	**276**	75.2	276	75.1	276
464.h264ref	24	888	598	**888**	**598**	887	599	24	846	628	**845**	**628**	844	629
471.omnetpp	24	1304	115	**1289**	**116**	1285	117	24	**1271**	**118**	1271	118	1269	118
473.astar	24	1218	138	**1211**	**139**	1208	139	24	1108	152	**1110**	**152**	1111	152
483.xalancbmk	24	759	218	758	219	**758**	**218**	24	759	218	758	219	**758**	**218**

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.
    taskset was used to bind processes to cores except
    for 462.libquantum peak
```

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
```

Platform Notes

```
    BIOS Settings:
    Adjacent Cache Line Prefetch = Disabled
    Hardware Prefetcher = Disabled
```

General Notes

```
    The NEC Express5800/R140a-4(Intel Xeon E7450) and
    the Bull NovaScale R480 E1(Intel Xeon E7450, 2.40 GHz) models are electronically equivalent.
    The results have been measured on a Bull NovaScale R480 E1(Intel Xeon E7450, 2.40 GHz) model.
```

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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

Base Optimization Flags

C benchmarks:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
    -opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
    -xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/spec/cpu2006.1.1/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/Compiler/11.0/042/bin/intel64/icc
            -L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
            -I/opt/intel/Compiler/11.0/042/ipp/em64t/include

    456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
            -L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
            -I/opt/intel/Compiler/11.0/042/ipp/em64t/include

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Peak Compiler Invocation (Continued)

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) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -ansi-alias -opt-prefetch`

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

            403.gcc: `-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc`
                `-opt-malloc-options=3`

            429.mcf: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                `-no-prec-div -static -opt-prefetch`

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

         456.hmmer: `-xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2`
                `-ansi-alias`

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

      462.libquantum: `-xSSE4.1 -ipo -O3 -no-prec-div -static`
                `-opt-malloc-options=3 -parallel -par-runtime-control`
                `-opt-prefetch`

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

C++ benchmarks:

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Peak Optimization Flags (Continued)

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.01.html
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.01.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.01.xml
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.01.xml

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