SPEC® CINT2006 Result
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Bull SAS

NovaScale R460 F2 (Intel Xeon L5630, 2.13 GHz)

SPECint®_rate2006 =   189

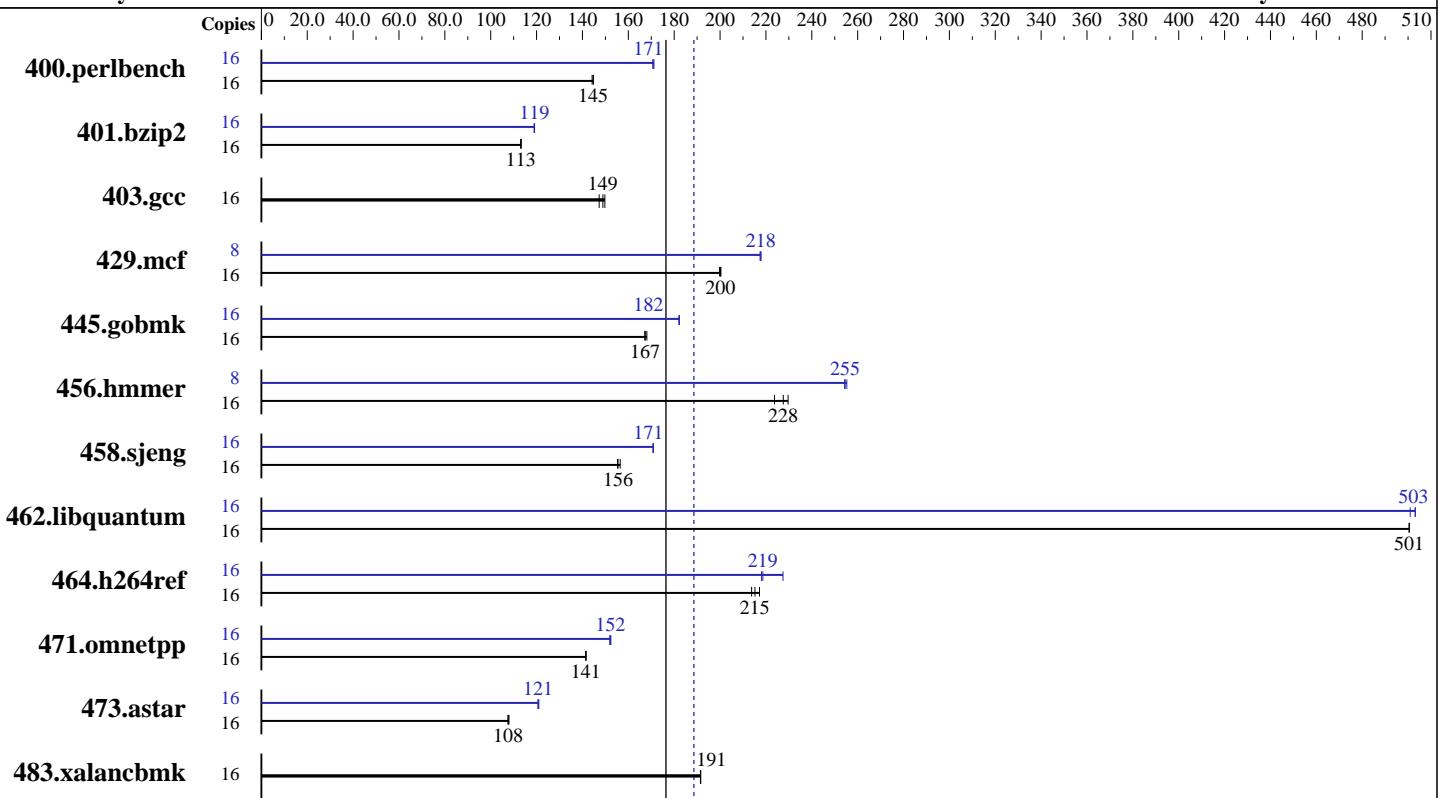SPECint_rate_base2006 =   176

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Dell Inc.

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

SPECint_rate_base2006 = 176

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Hardware

CPU Name: Intel Xeon L5630
CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
CPU MHz: 2133
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
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: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB DDR3-1333 DR RDIMM, CL9, ECC, downclocked to 1066 MHz)
Disk Subsystem: 1 x 146 GB 15000 RPM SAS
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-smp
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	16	1084	144	**1080**	**145**	1080	145		16	913	171	**915**	**171**	916	171
401.bzip2	16	**1365**	**113**	1363	113	1365	113		16	**1297**	**119**	1296	119	1298	119
403.gcc	16	860	150	**865**	**149**	874	147		16	860	150	**865**	**149**	874	147
429.mcf	16	731	200	**729**	**200**	728	200		8	**335**	**218**	335	218	336	217
445.gobmk	16	**1003**	**167**	999	168	1004	167		16	921	182	922	182	**921**	**182**
456.hmmer	16	667	224	**656**	**228**	650	230		8	**293**	**255**	293	254	292	255
458.sjeng	16	**1245**	**156**	1237	156	1247	155		16	1133	171	**1133**	**171**	1134	171
462.libquantum	16	662	500	662	501	**662**	**501**		16	662	501	**659**	**503**	659	503
464.h264ref	16	1656	214	1630	217	**1645**	**215**		16	**1619**	**219**	1624	218	1557	227
471.omnetpp	16	**707**	**141**	706	142	707	141		16	**657**	**152**	656	152	658	152
473.astar	16	1040	108	1045	108	**1043**	**108**		16	928	121	**931**	**121**	931	121
483.xalancbmk	16	577	191	**577**	**191**	576	192		16	577	191	**577**	**191**	576	192

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
```

Platform Notes

```
    BIOS Settings:
    Power Management = Maximum Performance (Default = Active Power Controller)
    Data Reuse = Disabled (Default = Enabled)
```

General Notes

```
    Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502
    The Dell PowerEdge R710 and
    the Bull NovaScale R460 F2 models are electronically equivalent.
    The results have been measured on a Dell PowerEdge R710 model.
```

Base Compiler Invocation

C benchmarks:
```
        icc  -m32
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
    icpc -m32

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

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Peak Portability Flags

```
   400.perlbench: -DSPEC_CPU_LINUX_IA32
       401.bzip2: -DSPEC_CPU_LP64
      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: basepeak = yes

         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
```

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Peak Optimization Flags (Continued)

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`
`-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.20100330.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.20100330.xml

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