SPEC® CINT2006 Result
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Bull SAS

NovaScale T820 F2 (Intel Core i3-540, 3.06 GHz)

$SPECint^{®}2006 =$ 28.6

$SPECint\_base2006 =$ 25.6

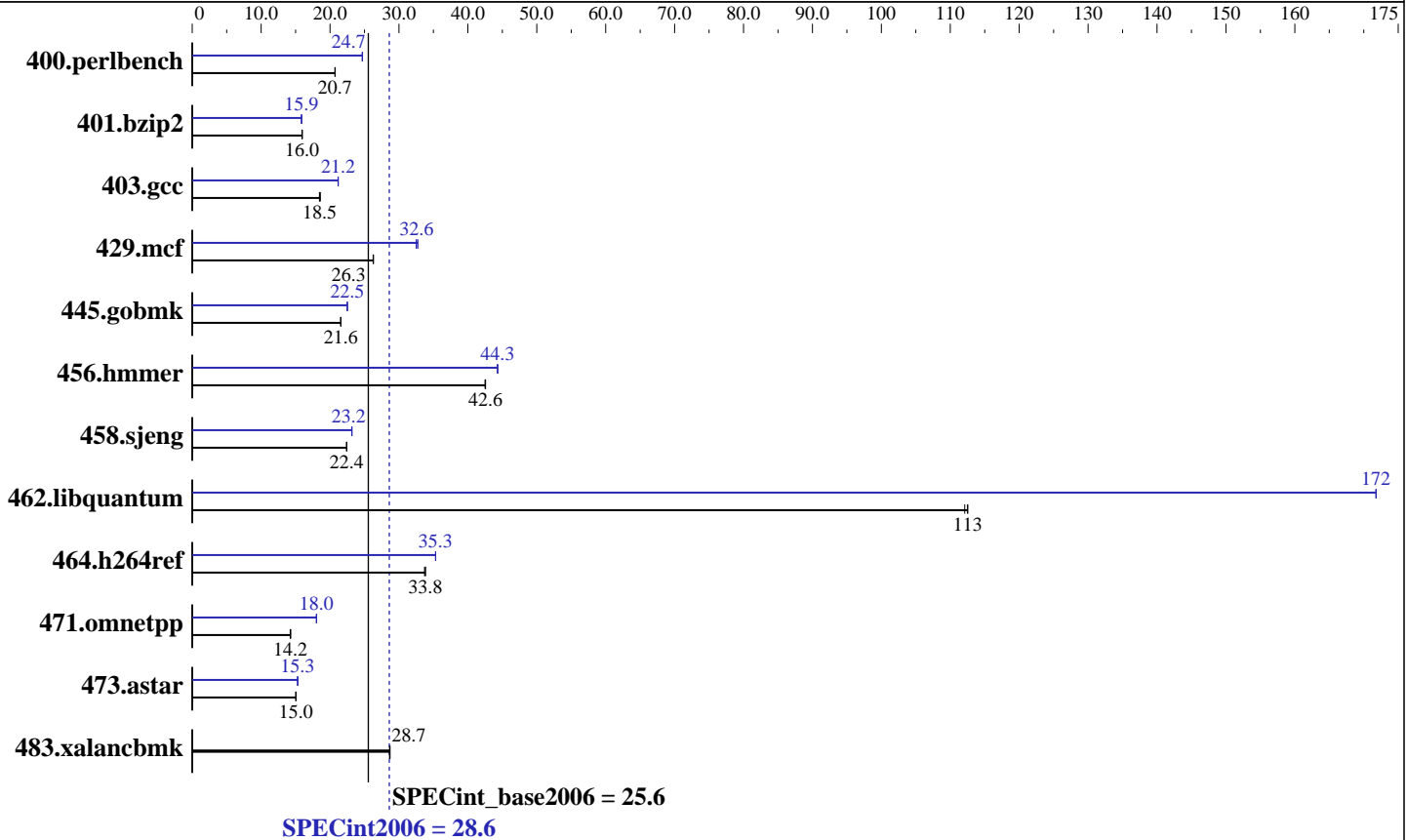**CPU2006 license:** 20
Test sponsor: Bull SAS
Tested by: Dell Inc.

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

400.perlbench	24.7 / 20.7
401.bzip2	15.9 / 16.0
403.gcc	21.2 / 18.5
429.mcf	32.6 / 26.3
445.gobmk	22.5 / 21.6
456.hmmer	44.3 / 42.6
458.sjeng	23.2 / 22.4
462.libquantum	172 / 113
464.h264ref	35.3 / 33.8
471.omnetpp	18.0 / 14.2
473.astar	15.3 / 15.0
483.xalancbmk	28.7

SPECint_base2006 = 25.6
SPECint2006 = 28.6

Hardware

CPU Name:	Intel Core i3-540
CPU Characteristics:	
CPU MHz:	3067
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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:	8 GB (4 x 2 GB DDR3-1333 DR UDIMM)
Disk Subsystem:	1 x 160 GB 7200 RPM SATA
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.3, Kernel 2.6.18-128.el5
Compiler:	Intel C++ Compiler Professional Edition 11.1 for Linux Build 20091012 Package ID: l_cproc_p_11.1.059
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	471	20.8	**471**	**20.7**	472	20.7	**396**	**24.7**	395	24.7	396	24.7
401.bzip2	**605**	**16.0**	604	16.0	606	15.9	**609**	**15.9**	607	15.9	609	15.8
403.gcc	433	18.6	**435**	**18.5**	436	18.5	380	21.2	**380**	**21.2**	380	21.2
429.mcf	347	26.3	**347**	**26.3**	347	26.3	278	32.8	**280**	**32.6**	281	32.5
445.gobmk	**486**	**21.6**	487	21.5	486	21.6	466	22.5	**466**	**22.5**	466	22.5
456.hmmer	220	42.5	**219**	**42.6**	219	42.6	**211**	**44.3**	210	44.3	211	44.3
458.sjeng	**540**	**22.4**	540	22.4	540	22.4	**522**	**23.2**	522	23.2	522	23.2
462.libquantum	184	113	**184**	**113**	185	112	121	172	121	172	**121**	**172**
464.h264ref	**654**	**33.8**	654	33.8	656	33.7	626	35.3	**627**	**35.3**	627	35.3
471.omnetpp	437	14.3	**439**	**14.2**	440	14.2	347	18.0	346	18.0	**347**	**18.0**
473.astar	**466**	**15.0**	467	15.0	466	15.1	**459**	**15.3**	459	15.3	459	15.3
483.xalancbmk	**240**	**28.7**	241	28.6	240	28.7	**240**	**28.7**	241	28.6	240	28.7

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)
```

General Notes

```
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
The Dell PowerEdge T310 and the Bull NovaScale T820 F2 models are electronically equivalent.
This result was measured on a Dell PowerEdge T310.
```

Base Compiler Invocation

C benchmarks:
```
icc -m64
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
```
icpc -m64
```

Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
        401.bzip2: -DSPEC_CPU_LP64
          403.gcc: -DSPEC_CPU_LP64
          429.mcf: -DSPEC_CPU_LP64
        445.gobmk: -DSPEC_CPU_LP64
        456.hmmer: -DSPEC_CPU_LP64
        458.sjeng: -DSPEC_CPU_LP64
    462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
       464.h264ref: -DSPEC_CPU_LP64
       471.omnetpp: -DSPEC_CPU_LP64
         473.astar: -DSPEC_CPU_LP64
     483.xalancbmk: -DSPEC_CPU_LP64 -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/libic11.1-64bit -lsmartheap64
```

Base Other Flags

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

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc  -m64
```

400.perlbench: `icc -m32`

429.mcf: `icc -m32`

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Peak Compiler Invocation (Continued)

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):
`icpc -m64`

471.omnetpp: `icpc -m32`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-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_LP64 -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 -opt-prefetch`

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

403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc`
`-opt-malloc-options=3 -auto-ilp32`

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`

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

Peak Optimization Flags (Continued)

462.libquantum: `-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel`
`-opt-prefetch -par-schedule-static=32768 -ansi-alias`

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`
`-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-int-linux64-revA.20100216.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-int-linux64-revA.20100216.xml

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