Bull SAS

BL265+ (Intel Xeon X5570, 2.93 GHz)

SPECfp®_rate2006 = 210
SPECfp_rate_base2006 = 205

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS
Test date: Jan-2011
Hardware Availability: May-2010
Software Availability: Nov-2010

---

### Hardware

CPU Name: Intel Xeon X5570
CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz: 2933
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

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64, Version 12.0.1.116 Build 20101116
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

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**Continued on next page**
## SPEC CFP2006 Result

### Bull SAS
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**L3 Cache:** 8 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)  
**Disk Subsystem:** 1 x 73 GB SAS, 10000 RPM  
**Other Hardware:** None

**Peak Pointers:** 32/64-bit  
**Other Software:** None

### Results Table

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</table>

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  
Hugepages was enabled with the following:  
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab  
echo 7200 > /proc/sys/vm/nr_hugepages  
export HUGETLB_MORECORE=yes  
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
SPEC CFP2006 Result

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SPECfp_rate_base2006 = 205

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

Test date: Jan-2011
Hardware Availability: May-2010
Software Availability: Nov-2010

Platform Notes

Turbo Mode enabled in BIOS
Turbo Boost set to Traditional in BIOS
Power C-states enabled in BIOS
Demand Scrub disabled in BIOS

Base Compiler Invocation

C benchmarks:
icc  -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc  -m64  ifort  -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64 -nofor_main
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xSSE4.2  -ipo  -O3  -no-prec-div  -static  -ansi-alias

C++ benchmarks:
-xSSE4.2  -ipo  -O3  -no-prec-div  -static  -ansi-alias

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**SPEC CFP2006 Result**

**Bull SAS**  
BL265+ (Intel Xeon X5570, 2.93 GHz)  

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<tr>
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<tr>
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**CPU2006 license:** 20  
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**Hardware Availability:** May-2010  
**Tested by:** Bull SAS  
**Software Availability:** Nov-2010

### Base Optimization Flags (Continued)

- **Fortran benchmarks:**  
  -xSSE4.2 -ipo -O3 -no-prec-div -static  
- **Benchmarks using both Fortran and C:**  
  -xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

### Peak Compiler Invocation

- **C benchmarks (except as noted below):**  
  icc  
  482.sphinx3: icc -m32

- **C++ benchmarks (except as noted below):**  
  icpc  
  450.soplex: icpc -m32

- **Fortran benchmarks:**  
  ifort -m64

- **Benchmarks using both Fortran and C:**  
  icc -m64 ifort -m64

### Peak Portability Flags

- 410.bwaves: -DSPEC_CPU_LP64
- 416.gamesp: -DSPEC_CPU_LP64
- 433.milc: -DSPEC_CPU_LP64
- 434.zesmp: -DSPEC_CPU_LP64
- 435.gromacs: -DSPEC_CPU_LP64 -nofor_main
- 436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
- 437.leslie3d: -DSPEC_CPU_LP64
- 444.namd: -DSPEC_CPU_LP64
- 447.dealII: -DSPEC_CPU_LP64
- 453.povray: -DSPEC_CPU_LP64
- 454.calculix: -DSPEC_CPU_LP64 -nofor_main
- 459.GemsFDTD: -DSPEC_CPU_LP64
- 465.tonto: -DSPEC_CPU_LP64
- 470.lbm: -DSPEC_CPU_LP64
- 481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
Bull SAS
BL265+ (Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 210
SPECfp_rate_base2006 = 205

CPU2006 license: 20
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Test date: Jan-2011
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Peak Optimization Flags

C benchmarks:

433.milc: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

470.lbm: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
  -ansi-alias -opt-prefetch -static -auto-ilp32

482.sphinx3: -xsSE4.2 -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
  -auto-ilp32

447.dealII: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32

450.soplex: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
  -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
  -inline-level=0 -scalar-rep -static

434.zeusmp: basepeak = yes

437.leslie3d: -xsSE4.2 -ipo -O3 -no-prec-div
  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xsSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
  -inline-calloc -opt-malloc-options=3
  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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SPEC CFP2006 Result

Bull SAS

BL265+ (Intel Xeon X5570, 2.93 GHz)

SPECfp_rate2006 = 210
SPECfp_rate_base2006 = 205

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</table>

Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -03(pass 2)
           -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
           -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.xml

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For other inquiries, please contact webmaster@spec.org.

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