SPEC® CFP2006 Result
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Bull SAS

NovaScale R460
(Intel Xeon processor E5345,2.33GHz)

$SPECfp^{®}2006 =$ 13.3
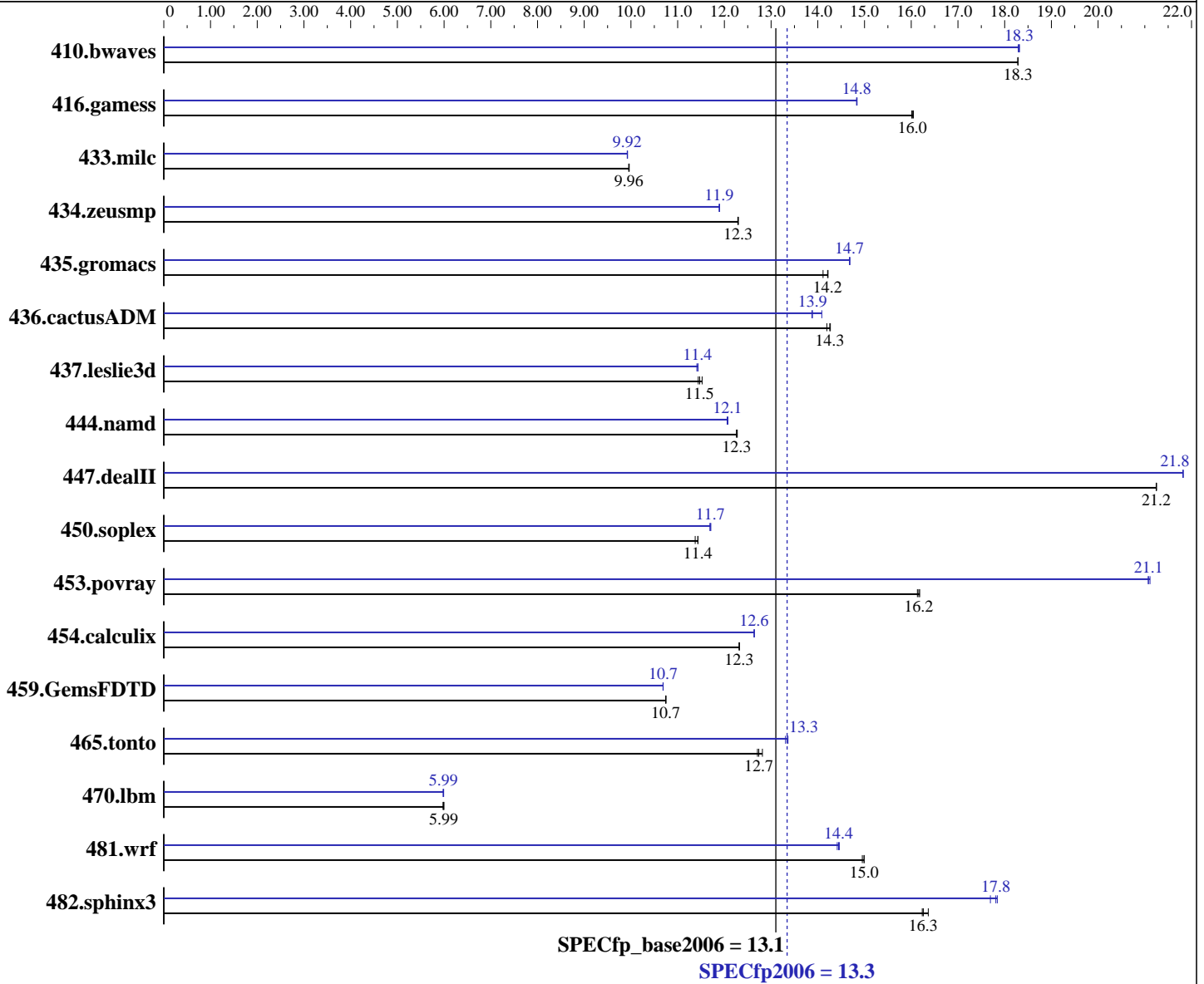
$SPECfp\_base2006 =$ 13.1

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

Test date: Apr-2007
Hardware Availability: Mar-2007
Software Availability: Dec-2006

Benchmark	Result
410.bwaves	18.3 / 18.3
416.gamess	14.8 / 16.0
433.milc	9.92 / 9.96
434.zeusmp	11.9 / 12.3
435.gromacs	14.7 / 14.2
436.cactusADM	13.9 / 14.3
437.leslie3d	11.4 / 11.5
444.namd	12.1 / 12.3
447.dealII	21.8 / 21.2
450.soplex	11.7 / 11.4
453.povray	21.1 / 16.2
454.calculix	12.6 / 12.3
459.GemsFDTD	10.7 / 10.7
465.tonto	13.3 / 12.7
470.lbm	5.99 / 5.99
481.wrf	14.4 / 15.0
482.sphinx3	17.8 / 16.3

SPECfp_base2006 = 13.1

SPECfp2006 = 13.3

Hardware
CPU Name: Intel Xeon E5345
CPU Characteristics: 2.33GHz, 2x4 MB L2 shared, 1333 MHz system bus
CPU MHz: 2330
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable: 1 to 2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

Continued on next page

Software
Operating System: SuSE Linux Enterprise Server 10 (EM64T)
kernel 2.6.16.21-0.8-smp
Compiler: Intel C++ Compiler for Intel EM64T-based
applications, Version 9.1
Package ID l_cc_c_9.1.045 Build no 20061101
Intel Fortran Compiler for Intel EM64T-based
applications, Version 9.1
Package ID l_fc_c_9.1.040 Build no 20061101
Auto Parallel: No

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L3 Cache:	None
Other Cache:	None
Memory:	24 GB (2GB DIMMx12, FB-DIMM PC2-5300F ECC CL5)
Disk Subsystem:	73 GB SAS, 10000RPM
Other Hardware:	None

File System:	ext2
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**743**	**18.3**	743	18.3	743	18.3	**742**	**18.3**	743	18.3	742	18.3
416.gamess	1223	16.0	1220	16.0	**1222**	**16.0**	**1320**	**14.8**	1319	14.8	1320	14.8
433.milc	922	9.95	921	9.96	**922**	**9.96**	**925**	**9.92**	925	9.92	925	9.93
434.zeusmp	741	12.3	740	12.3	**740**	**12.3**	**765**	**11.9**	765	11.9	765	11.9
435.gromacs	**502**	**14.2**	502	14.2	506	14.1	486	14.7	**486**	**14.7**	486	14.7
436.cactusADM	837	14.3	842	14.2	**838**	**14.3**	861	13.9	**861**	**13.9**	848	14.1
437.leslie3d	**819**	**11.5**	822	11.4	816	11.5	**822**	**11.4**	822	11.4	824	11.4
444.namd	**654**	**12.3**	654	12.3	653	12.3	664	12.1	665	12.1	**664**	**12.1**
447.dealII	**538**	**21.2**	539	21.2	538	21.3	**524**	**21.8**	524	21.8	524	21.8
450.soplex	**730**	**11.4**	729	11.4	733	11.4	**713**	**11.7**	713	11.7	712	11.7
453.povray	330	16.1	329	16.2	**329**	**16.2**	252	21.1	252	21.1	**252**	**21.1**
454.calculix	670	12.3	**670**	**12.3**	670	12.3	653	12.6	**653**	**12.6**	653	12.6
459.GemsFDTD	**987**	**10.7**	987	10.7	987	10.7	993	10.7	**993**	**10.7**	993	10.7
465.tonto	**773**	**12.7**	774	12.7	768	12.8	736	13.4	**737**	**13.3**	739	13.3
470.lbm	2291	6.00	**2293**	**5.99**	2299	5.98	2298	5.98	2293	5.99	**2296**	**5.99**
481.wrf	**745**	**15.0**	747	15.0	745	15.0	775	14.4	772	14.5	**773**	**14.4**
482.sphinx3	1191	16.4	1200	16.2	**1199**	**16.3**	1092	17.8	1101	17.7	**1094**	**17.8**

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

Operating System Notes

```
Environment stack size set to 'unlimited'
'/usr/bin/taskset' used to bind processes to CPUs
```

General Notes

```
The NovaScale R440 and the NovaScale R460 models are
electronically equivalent.
The results have been measured on a NovaScale R440 model.
```

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Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

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
          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
          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:
    -fast

C++ benchmarks:
    -fast

Fortran benchmarks:
    -fast

Benchmarks using both Fortran and C:
    -fast

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Test sponsor:	Bull SAS	**Hardware Availability:**	Mar-2007
Tested by:	Bull SAS	**Software Availability:**	Dec-2006

Peak Compiler Invocation

C benchmarks:
     `icc`

C++ benchmarks:
     `icpc`

Fortran benchmarks:
     `ifort`

Benchmarks using both Fortran and C:
     `icc ifort`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:
     `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

C++ benchmarks:
     `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

Fortran benchmarks:
     `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

Benchmarks using both Fortran and C:
     `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast -auto_ilp32`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/EM64T_Intel91_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/EM64T_Intel91_flags.xml`

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