SPEC® CFP2006 Result

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Bull SAS

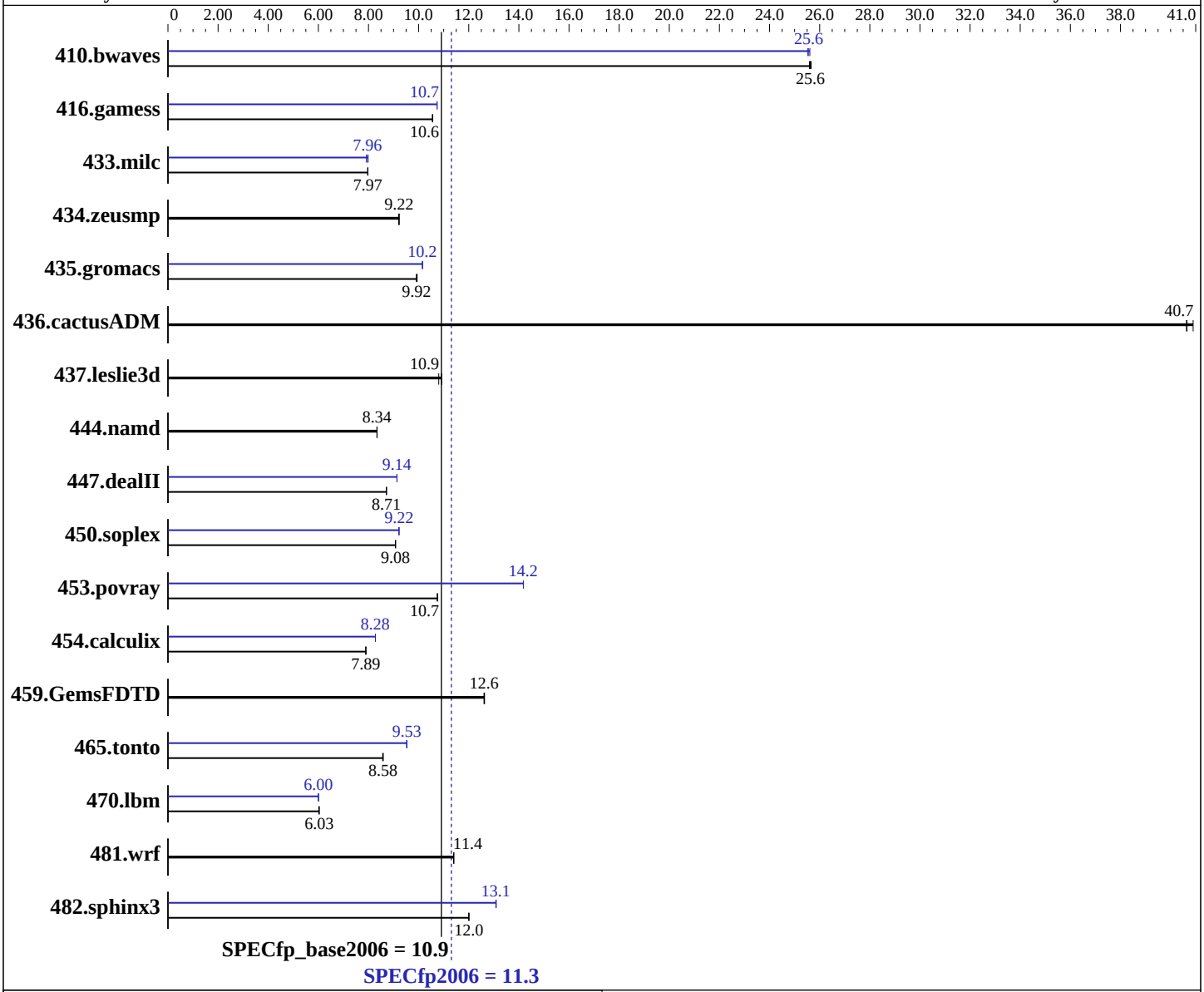
NovaScale R440
(Intel Xeon processor E5310,1.60GHz)

SPECfp®2006 = 11.3

SPECfp_base2006 = 10.9

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

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



Hardware

CPU Name:	Intel Xeon E5310
CPU Characteristics:	1.60 GHz, 8 MB L2, 1066 MHz system bus
CPU MHz:	1600
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

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Software

Operating System:	Windows Server 2003 Enterprise Edition X64 Edition Service Pack1
Compiler:	Intel C++ Compiler for EM64T version 9.1 Package ID W_CC_C_9.1.033 Build no 20061104 Intel Fortran Compiler for EM64T version 9.1 Package ID W_FC_C_9.1.033 Build no 20061104 Microsoft Visual Studio 2005 (lib & linker)
Auto Parallel:	Yes
File System:	NTFS
System State:	Default

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L3 Cache: None
Other Cache: None
Memory: 12 GB (12x1 GB) FB-DIMM PC2-4200F ECC CL4
Disk Subsystem: 1x73 GB SAS, 15000 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: MicroQuill SmartHeap Library 8.0 (shlW32M.lib)

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**530**	**25.6**	530	25.7	531	25.6	532	25.5	531	25.6	**532**	**25.6**
416.gamess	**1855**	**10.6**	1855	10.6	1855	10.6	**1824**	**10.7**	1824	10.7	1824	10.7
433.milc	**1152**	**7.97**	1150	7.98	1152	7.97	**1153**	**7.96**	1149	7.99	1160	7.92
434.zeusmp	989	9.20	986	9.23	**987**	**9.22**	989	9.20	986	9.23	**987**	**9.22**
435.gromacs	718	9.94	**720**	**9.92**	720	9.91	703	10.2	**703**	**10.2**	703	10.2
436.cactusADM	292	40.9	294	40.6	**294**	**40.7**	292	40.9	294	40.6	**294**	**40.7**
437.leslie3d	870	10.8	**862**	**10.9**	862	10.9	870	10.8	**862**	**10.9**	862	10.9
444.namd	**962**	**8.34**	962	8.34	962	8.34	**962**	**8.34**	962	8.34	962	8.34
447.dealII	**1313**	**8.71**	1312	8.72	1313	8.71	**1252**	**9.14**	1252	9.14	1252	9.14
450.soplex	919	9.08	**919**	**9.08**	918	9.08	905	9.21	**905**	**9.22**	905	9.22
453.povray	**495**	**10.7**	495	10.7	495	10.7	375	14.2	375	14.2	**375**	**14.2**
454.calculix	**1045**	**7.89**	1045	7.89	1045	7.90	997	8.28	**997**	**8.28**	997	8.28
459.GemsFDTD	841	12.6	**841**	**12.6**	840	12.6	841	12.6	**841**	**12.6**	840	12.6
465.tonto	1145	8.59	1149	8.57	**1147**	**8.58**	1033	9.53	**1033**	**9.53**	1033	9.52
470.lbm	2284	6.02	**2277**	**6.03**	2277	6.03	**2289**	**6.00**	2289	6.00	2289	6.00
481.wrf	980	11.4	**980**	**11.4**	979	11.4	980	11.4	**980**	**11.4**	979	11.4
482.sphinx3	1624	12.0	1623	12.0	**1623**	**12.0**	1490	13.1	1488	13.1	**1490**	**13.1**

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

General Notes

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

Base Compiler Invocation

C benchmarks:

```
icl -Qvc8 -Qc99
```

C++ benchmarks:

```
icl -Qvc8
```

Continued on next page

Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
416.gamess: -DSPEC_CPU_P64
433.milc: -D_Complex= -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -D_Complex= -DSPEC_CPU_P64
436.cactusADM: -D_Complex= -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -D_Complex= -DSPEC_CPU_P64 -DBOOST_NO_INTRINSIC_WCHAR_T -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -D_Complex= -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -D_Complex= -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -D_Complex= -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-fast -Qparallel

C++ benchmarks:
-fast -Qparallel -Qcxx-features

Fortran benchmarks:
-fast -Qparallel

Benchmarks using both Fortran and C:
-fast -Qparallel

Base Other Flags

C benchmarks:
`-F950000000`

C++ benchmarks:
`-F950000000`

Fortran benchmarks:
`-F950000000`

Benchmarks using both Fortran and C:
`-F950000000`

Peak Compiler Invocation

C benchmarks:
`icl -Qvc8 -Qc99`

C++ benchmarks:
`icl -Qvc8`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icl -Qvc8 -Qc99 ifort`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:
`-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast`

C++ benchmarks:

444.namd: `basepeak = yes`

447.dealII: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Qcxx-features`

450.soplex: `Same as 447.dealII`

Continued on next page

Peak Optimization Flags (Continued)

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Qparallel`

416.gamess: `-fast`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `Same as 410.bwaves`

Benchmarks using both Fortran and C:

435.gromacs: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast`

436.cactusADM: `basepeak = yes`

454.calculix: `Same as 435.gromacs`

481.wrf: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-F950000000`

C++ benchmarks:
`-F950000000`

Fortran benchmarks:
`-F950000000`

Benchmarks using both Fortran and C:
`-F950000000`

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

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

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

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