SPEC® CFP2006 Result

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Bull SAS

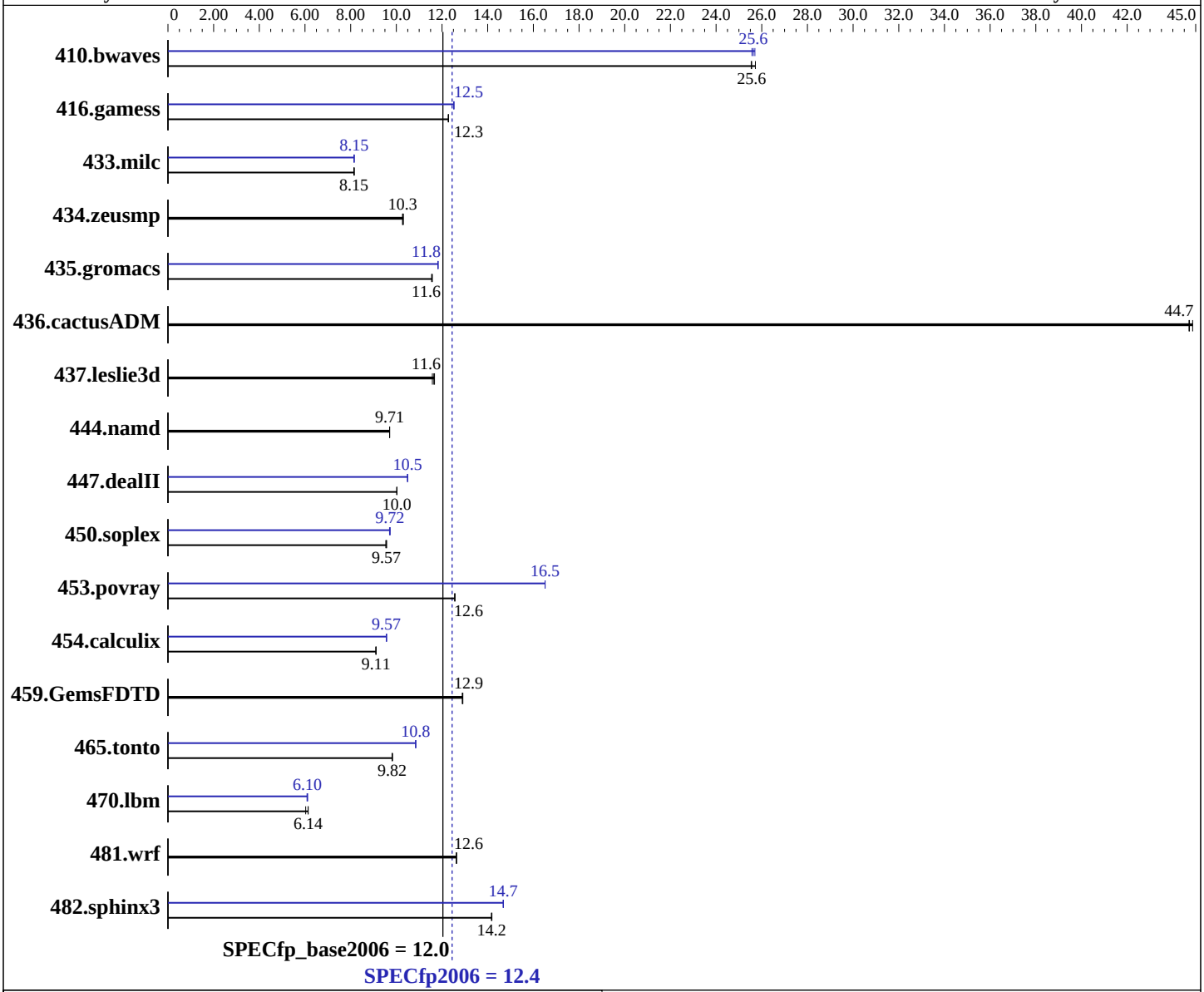
NovaScale R440
(Intel Xeon processor E5320,1.86GHz)

SPECfp®2006 = 12.4

SPECfp_base2006 = 12.0

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 E5320
CPU Characteristics:	1.86 GHz, 8 MB L2, 1066 MHz system bus
CPU MHz:	1860
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	528	25.7	**532**	**25.6**	532	25.5	**530**	**25.6**	531	25.6	529	25.7
416.gamess	**1594**	**12.3**	1594	12.3	1595	12.3	**1564**	**12.5**	1564	12.5	1564	12.5
433.milc	**1127**	**8.15**	1128	8.14	1125	8.16	1126	8.16	**1126**	**8.15**	1127	8.15
434.zeusmp	886	10.3	**885**	**10.3**	883	10.3	886	10.3	**885**	**10.3**	883	10.3
435.gromacs	617	11.6	**618**	**11.6**	618	11.5	**604**	**11.8**	604	11.8	604	11.8
436.cactusADM	267	44.7	**267**	**44.7**	266	44.9	267	44.7	**267**	**44.7**	266	44.9
437.leslie3d	805	11.7	**807**	**11.6**	812	11.6	805	11.7	**807**	**11.6**	812	11.6
444.namd	**826**	**9.71**	826	9.71	826	9.71	**826**	**9.71**	826	9.71	826	9.71
447.dealII	1141	10.0	**1141**	**10.0**	1141	10.0	1090	10.5	**1090**	**10.5**	1090	10.5
450.soplex	874	9.54	**872**	**9.57**	871	9.57	860	9.70	**858**	**9.72**	858	9.73
453.povray	424	12.6	423	12.6	**423**	**12.6**	**322**	**16.5**	322	16.5	322	16.5
454.calculix	907	9.10	905	9.12	**906**	**9.11**	862	9.57	**862**	**9.57**	862	9.57
459.GemsFDTD	**823**	**12.9**	822	12.9	823	12.9	**823**	**12.9**	822	12.9	823	12.9
465.tonto	1001	9.83	**1002**	**9.82**	1003	9.81	**907**	**10.8**	907	10.8	907	10.8
470.lbm	2278	6.03	**2239**	**6.14**	2238	6.14	2257	6.09	**2251**	**6.10**	2247	6.12
481.wrf	884	12.6	885	12.6	**884**	**12.6**	884	12.6	885	12.6	**884**	**12.6**
482.sphinx3	1376	14.2	1374	14.2	**1375**	**14.2**	**1328**	**14.7**	1327	14.7	1328	14.7

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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