SPEC® CFP2006 Result

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Bull SAS

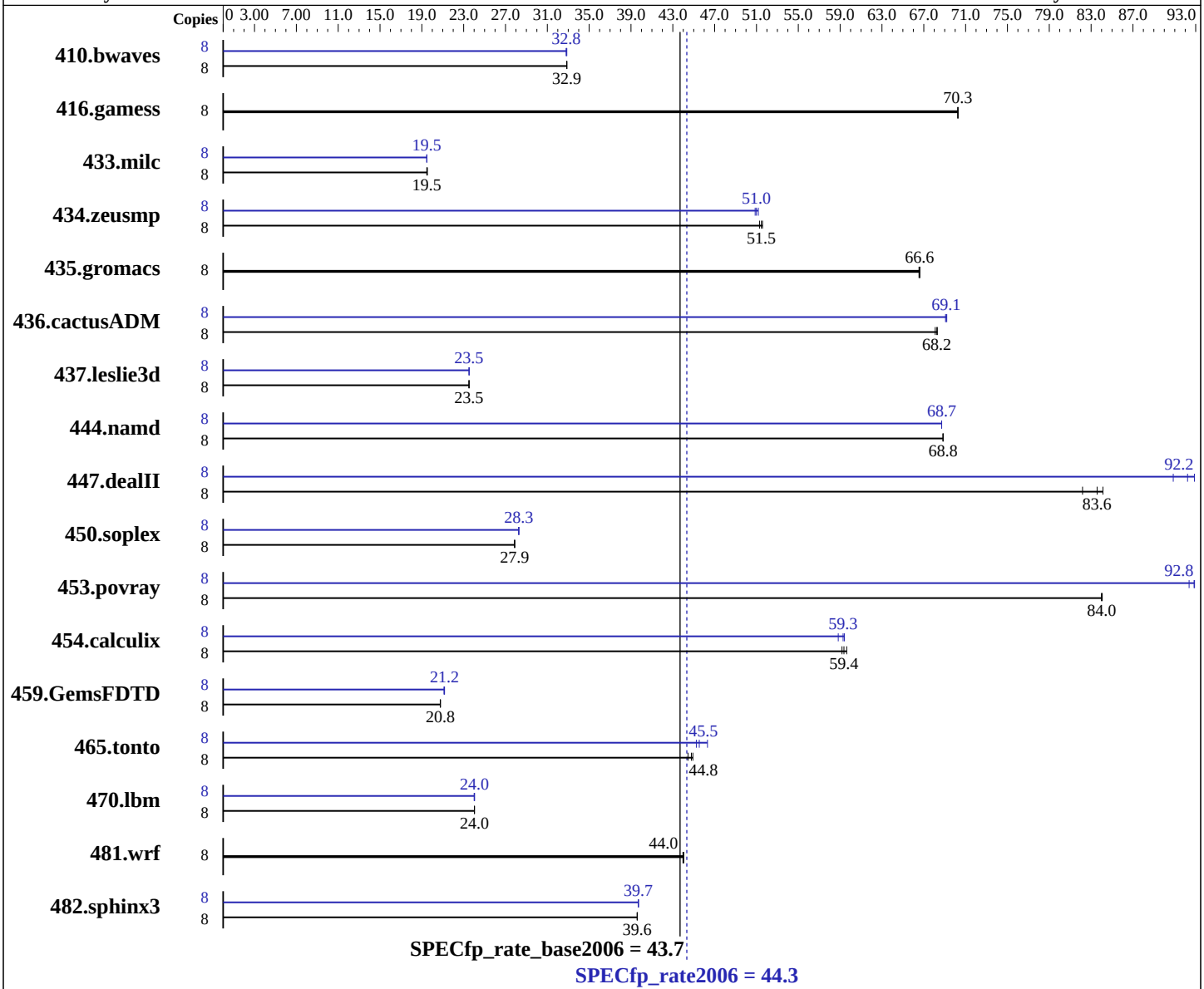
NovaScale R480 (3.0 GHz, Intel Xeon 7120M)

SPECfp®_rate2006 = 44.3

SPECfp_rate_base2006 = 43.7

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

Test date: May-2007
Hardware Availability: Sep-2006
Software Availability: Nov-2006



Hardware

CPU Name:	Intel Xeon 7120M
CPU Characteristics:	3.0 GHz, 800 MHz bus
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core

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Software

Operating System:	Windows Server 2003 Enterprise X64 Edition
Compiler:	Intel C++ Compiler for IA32 version 9.1 Package ID W_CC_C_9.1.033 Build no 20061103Z Intel Fortran Compiler for IA32 version 9.1 Package ID W_FC_C_9.1.033 Build no 20061103Z Microsoft Visual Studio .NET 2003 (lib & linker)
Auto Parallel:	No
File System:	NTFS
System State:	Default

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (16x2 GB) DDR2 400 PC2-3200R-333
Disk Subsystem: 2x36 GB SAS 15000 RPM
Other Hardware: None

Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: MicroQuill SmartHeap Library 8.0 (shlW32M.lib)

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3309	32.9	3308	32.9	**3308**	**32.9**	8	3308	32.9	3314	32.8	**3313**	**32.8**
416.gamess	8	2230	70.3	2229	70.3	**2230**	**70.3**	8	2230	70.3	2229	70.3	**2230**	**70.3**
433.milc	8	3760	19.5	**3769**	**19.5**	3771	19.5	8	3769	19.5	**3771**	**19.5**	3771	19.5
434.zeusmp	8	1419	51.3	**1414**	**51.5**	1411	51.6	8	1423	51.2	**1428**	**51.0**	1431	50.9
435.gromacs	8	858	66.5	857	66.6	**858**	**66.6**	8	858	66.5	857	66.6	**858**	**66.6**
436.cactusADM	8	**1401**	**68.2**	1400	68.3	1404	68.1	8	1382	69.2	1384	69.1	**1383**	**69.1**
437.leslie3d	8	**3199**	**23.5**	3199	23.5	3197	23.5	8	3198	23.5	3197	23.5	**3197**	**23.5**
444.namd	8	932	68.8	**932**	**68.8**	932	68.8	8	934	68.7	934	68.7	**934**	**68.7**
447.dealII	8	1088	84.1	1114	82.2	**1095**	**83.6**	8	1007	90.9	**992**	**92.2**	985	92.9
450.soplex	8	2393	27.9	**2393**	**27.9**	2394	27.9	8	**2361**	**28.3**	2361	28.3	2359	28.3
453.povray	8	**507**	**84.0**	507	84.0	506	84.1	8	461	92.4	458	92.9	**458**	**92.8**
454.calculix	8	**1112**	**59.4**	1115	59.2	1107	59.6	8	1122	58.8	**1113**	**59.3**	1111	59.4
459.GemsFDTD	8	**4087**	**20.8**	4089	20.8	4084	20.8	8	4020	21.1	4009	21.2	**4011**	**21.2**
465.tonto	8	1753	44.9	**1758**	**44.8**	1771	44.5	8	1700	46.3	**1729**	**45.5**	1740	45.2
470.lbm	8	**4575**	**24.0**	4573	24.0	4575	24.0	8	**4573**	**24.0**	4573	24.0	4580	24.0
481.wrf	8	2029	44.0	2032	44.0	**2030**	**44.0**	8	2029	44.0	2032	44.0	**2030**	**44.0**
482.sphinx3	8	3938	39.6	3937	39.6	**3938**	**39.6**	8	3925	39.7	3928	39.7	**3927**	**39.7**

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

General Notes

```
Other Configuration Notes

Hyper-Threading technology was disabled in the Bios.

The NovaScale T880 and the NovaScale R480 models are
electronically equivalent.
The results have been measured on a NovaScale R480 model.
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc7.1 -Qc99
```

C++ benchmarks:
```
icl -Qvc7.1
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc7.1 -Qc99 ifort
```

Base Portability Flags

436.cactusADM: `-Qlowercase /assume:underscore`
444.namd: `-TP`
447.dealII: `-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DBOOST_NO_INTRINSIC_WCHAR_T`
453.povray: `-DSPEC_CPU_WINDOWS_ICL`
454.calculix: `-DSPEC_CPU_NOZMODIFIER -Qlowercase`
481.wrf: `-DSPEC_CPU_WINDOWS_ICL`

Base Optimization Flags

C benchmarks:
```
-fast /F950000000 shlw32m.lib            -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
-fast -Qcxx_features /F950000000 shlw32m.lib
           -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-fast /F950000000           -link /FORCE:MULTIPLE
```

Benchmarks using both Fortran and C:
```
-fast /F950000000           -link /FORCE:MULTIPLE
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc7.1 -Qc99
```

C++ benchmarks:
```
icl -Qvc7.1
```

Continued on next page

Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc7.1 -Qc99 ifort

Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Peak Optimization Flags

C benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F950000000 shlw32m.lib -link /FORCE:MULTIPLE

C++ benchmarks:
-Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features /F950000000 shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F950000000 -link /FORCE:MULTIPLE

416.gamess: basepeak = yes

434.zeusmp: Same as 410.bwaves

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

436.cactusADM: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast /F950000000 -link /FORCE:MULTIPLE`

454.calculix: `Same as 436.cactusADM`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/flags.20090714.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/flags.20090714.00.xml`

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

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