SPEC® CFP2006 Result

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Bull SAS

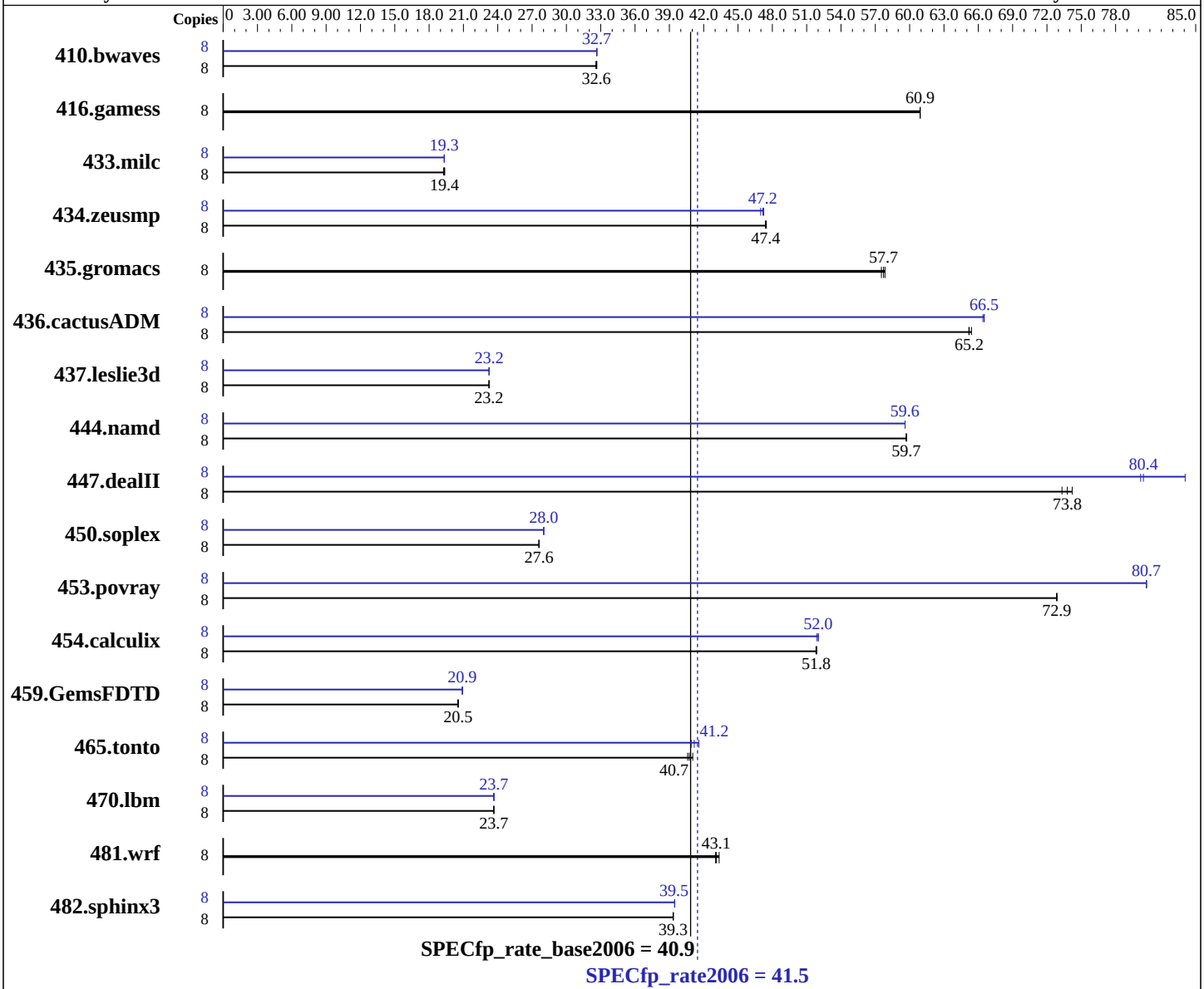
NovaScale R480 (2.60 GHz, Intel Xeon 7110M)

SPECfp®_rate2006 = 41.5

SPECfp_rate_base2006 = 40.9

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

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



Hardware

CPU Name:	Intel Xeon 7110M
CPU Characteristics:	2.6 GHz, 800 MHz bus
CPU MHz:	2600
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	**3332**	**32.6**	3337	32.6	3329	32.7	8	3331	32.6	3327	32.7	**3329**	**32.7**
416.gamess	8	2571	60.9	**2571**	**60.9**	2571	60.9	8	2571	60.9	**2571**	**60.9**	2571	60.9
433.milc	8	3794	19.4	**3795**	**19.4**	3813	19.3	8	3800	19.3	3800	19.3	**3800**	**19.3**
434.zeusmp	8	1536	47.4	**1535**	**47.4**	1533	47.5	8	1541	47.3	1550	47.0	**1543**	**47.2**
435.gromacs	8	**990**	**57.7**	993	57.5	987	57.8	8	**990**	**57.7**	993	57.5	987	57.8
436.cactusADM	8	**1466**	**65.2**	1467	65.2	1462	65.4	8	**1437**	**66.5**	1440	66.4	1437	66.5
437.leslie3d	8	3237	23.2	3235	23.2	**3236**	**23.2**	8	3235	23.2	**3235**	**23.2**	3236	23.2
444.namd	8	1074	59.7	**1074**	**59.7**	1075	59.7	8	1077	59.6	1077	59.6	**1077**	**59.6**
447.dealII	8	1233	74.2	**1240**	**73.8**	1248	73.3	8	1141	80.2	1088	84.1	**1138**	**80.4**
450.soplex	8	2418	27.6	2416	27.6	**2417**	**27.6**	8	2380	28.0	**2381**	**28.0**	2382	28.0
453.povray	8	584	72.9	584	72.8	**584**	**72.9**	8	527	80.7	527	80.7	**527**	**80.7**
454.calculix	8	**1273**	**51.8**	1272	51.9	1274	51.8	8	**1269**	**52.0**	1272	51.9	1269	52.0
459.GemsFDTD	8	4130	20.6	**4132**	**20.5**	4141	20.5	8	4062	20.9	4058	20.9	**4060**	**20.9**
465.tonto	8	**1932**	**40.7**	1939	40.6	1918	41.0	8	**1912**	**41.2**	1924	40.9	1893	41.6
470.lbm	8	**4645**	**23.7**	4647	23.7	4645	23.7	8	**4646**	**23.7**	4647	23.7	4642	23.7
481.wrf	8	**2073**	**43.1**	2061	43.4	2076	43.0	8	**2073**	**43.1**	2061	43.4	2076	43.0
482.sphinx3	8	3962	39.4	**3963**	**39.3**	3965	39.3	8	**3951**	**39.5**	3951	39.5	3951	39.5

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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