SPEC® CFP2006 Result

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Bull SAS

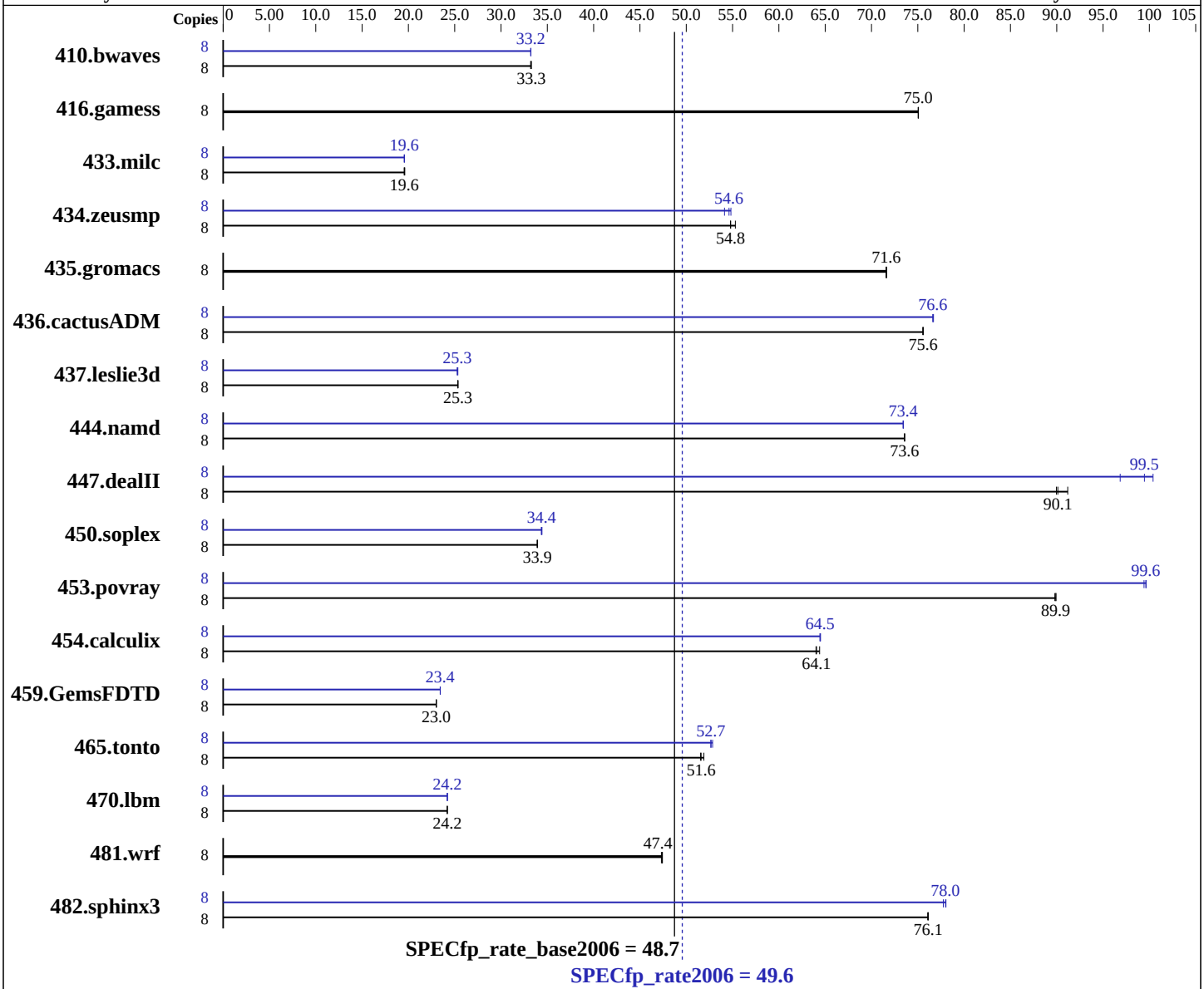
NovaScale R480 (3.20 GHz, Intel Xeon 7130M)

SPECfp®_rate2006 = 49.6

SPECfp_rate_base2006 = 48.7

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

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



Hardware

CPU Name:	Intel Xeon 7130M
CPU Characteristics:	3.2GHz, 800MHz bus
CPU MHz:	3200
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 9.1 for 32-bit Build 20061103Z Package ID: W_CC_C_9.1.033 Intel Fortran Compiler 9.1 for 32-bit Build 20061103Z Package ID: W_FC_C_9.1.033 Microsoft Visual Studio .NET 2003 (libraries)
Auto Parallel:	No
File System:	NTFS
System State:	Default

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (667 MHz ECC CL5 DDR2 FB-DIMM)
Disk Subsystem: 2x36GB 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	3268	33.3	3275	33.2	**3269**	**33.3**	8	3274	33.2	3272	33.2	**3273**	**33.2**
416.gamess	8	2087	75.0	**2087**	**75.0**	2087	75.1	8	2087	75.0	**2087**	**75.0**	2087	75.1
433.milc	8	3745	19.6	3756	19.6	**3754**	**19.6**	8	3753	19.6	3754	19.6	**3754**	**19.6**
434.zeusmp	8	1316	55.3	1329	54.8	**1329**	**54.8**	8	1328	54.8	**1333**	**54.6**	1345	54.1
435.gromacs	8	798	71.6	797	71.6	**798**	**71.6**	8	798	71.6	797	71.6	**798**	**71.6**
436.cactusADM	8	1265	75.6	**1265**	**75.6**	1266	75.5	8	**1247**	**76.6**	1248	76.6	1247	76.7
437.leslie3d	8	2970	25.3	2964	25.4	**2969**	**25.3**	8	2975	25.3	2967	25.3	**2974**	**25.3**
444.namd	8	872	73.6	**872**	**73.6**	872	73.6	8	874	73.4	**874**	**73.4**	874	73.4
447.dealII	8	**1016**	**90.1**	1004	91.2	1017	90.0	8	912	100	**920**	**99.5**	945	96.8
450.soplex	8	1966	33.9	1968	33.9	**1967**	**33.9**	8	1942	34.4	**1940**	**34.4**	1938	34.4
453.povray	8	473	89.9	**473**	**89.9**	474	89.8	8	427	99.6	428	99.4	**427**	**99.6**
454.calculix	8	**1030**	**64.1**	1031	64.0	1025	64.4	8	**1024**	**64.5**	1024	64.4	1023	64.5
459.GemsFDTD	8	3687	23.0	3690	23.0	**3689**	**23.0**	8	3619	23.5	3622	23.4	**3622**	**23.4**
465.tonto	8	1517	51.9	1527	51.5	**1526**	**51.6**	8	**1494**	**52.7**	1495	52.6	1490	52.8
470.lbm	8	4542	24.2	**4542**	**24.2**	4545	24.2	8	**4541**	**24.2**	4540	24.2	4544	24.2
481.wrf	8	1884	47.4	1889	47.3	**1885**	**47.4**	8	1884	47.4	1889	47.3	**1885**	**47.4**
482.sphinx3	8	**2048**	**76.1**	2048	76.1	2050	76.1	8	1998	78.0	**1999**	**78.0**	2005	77.8

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

General Notes

```
Other Configuration Notes

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
```

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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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