SPEC® CFP2006 Result

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Bull SAS

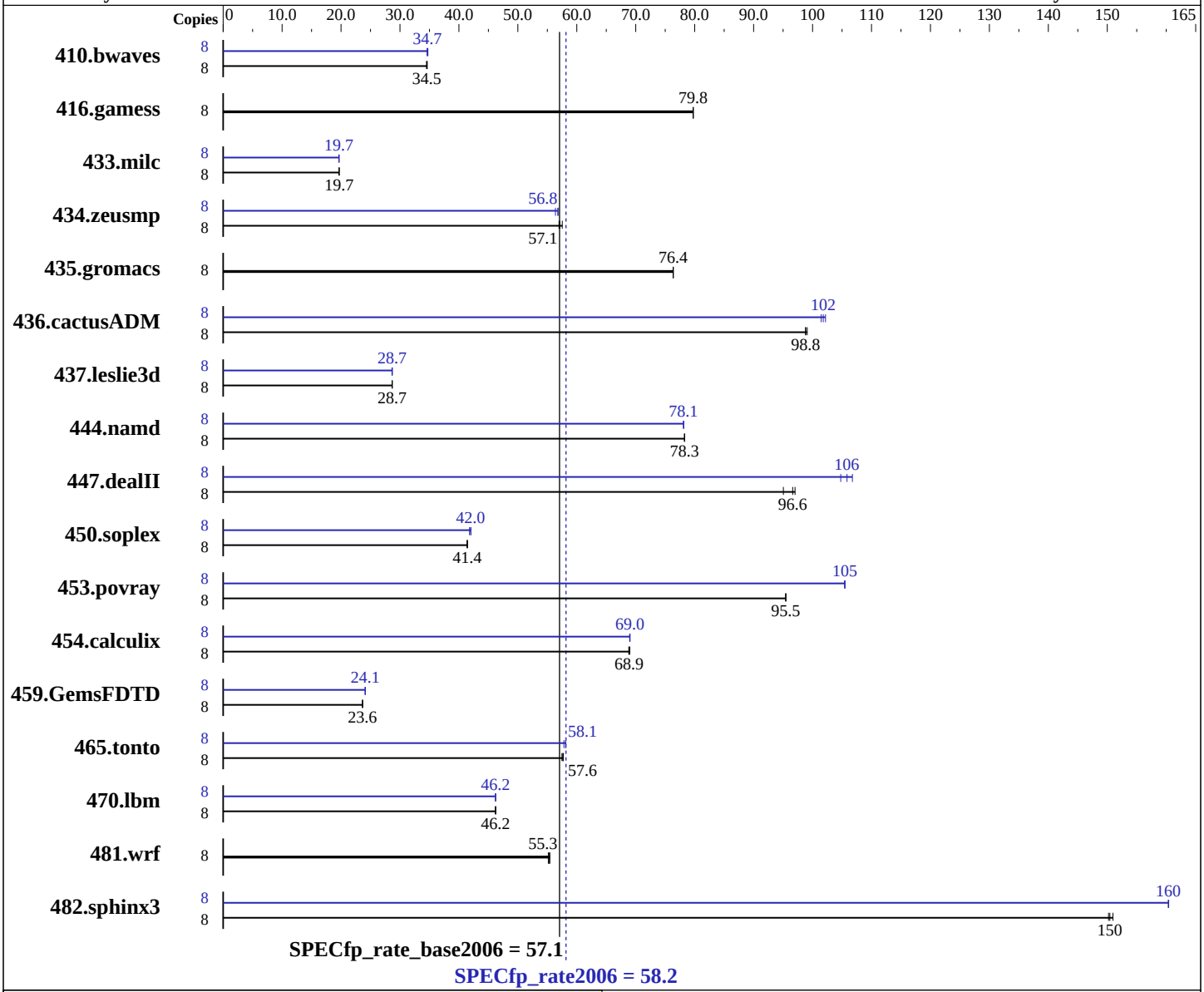
NovaScale R480 (3.40 GHz, Intel Xeon 7140M)

SPECfp®_rate2006 = 58.2

SPECfp_rate_base2006 = 57.1

CPU2006 license: 3
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 7140M
CPU Characteristics:	3.4GHz, 800MHz bus
CPU MHz:	3400
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: 16 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (16X1GB 1Rx4 PC2-3200R-333 400MHz DDR2)
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	**3147**	**34.5**	3150	34.5	3139	34.6	8	3129	34.7	3143	34.6	**3137**	**34.7**
416.gamess	8	1965	79.7	1964	79.8	**1964**	**79.8**	8	1965	79.7	1964	79.8	**1964**	**79.8**
433.milc	8	3734	19.7	3732	19.7	**3732**	**19.7**	8	**3736**	**19.7**	3736	19.7	3739	19.6
434.zeusmp	8	**1275**	**57.1**	1265	57.5	1278	57.0	8	**1282**	**56.8**	1291	56.4	1282	56.8
435.gromacs	8	748	76.3	**748**	**76.4**	748	76.4	8	748	76.3	**748**	**76.4**	748	76.4
436.cactusADM	8	968	98.8	965	99.1	**967**	**98.8**	8	942	101	935	102	**939**	**102**
437.leslie3d	8	**2622**	**28.7**	2623	28.7	2622	28.7	8	2619	28.7	**2623**	**28.7**	2626	28.6
444.namd	8	820	78.3	**820**	**78.3**	820	78.3	8	821	78.1	**821**	**78.1**	821	78.1
447.dealII	8	963	95.0	943	97.0	**947**	**96.6**	8	**865**	**106**	873	105	857	107
450.soplex	8	1613	41.4	**1611**	**41.4**	1609	41.5	8	**1589**	**42.0**	1596	41.8	1587	42.0
453.povray	8	446	95.4	446	95.5	**446**	**95.5**	8	404	105	403	105	**403**	**105**
454.calculix	8	957	69.0	959	68.8	**958**	**68.9**	8	957	69.0	**956**	**69.0**	956	69.0
459.GemsFDTD	8	3591	23.6	**3590**	**23.6**	3587	23.7	8	3519	24.1	**3520**	**24.1**	3525	24.1
465.tonto	8	**1366**	**57.6**	1364	57.7	1370	57.5	8	**1354**	**58.1**	1354	58.1	1362	57.8
470.lbm	8	2379	46.2	**2378**	**46.2**	2377	46.2	8	**2378**	**46.2**	2378	46.2	2379	46.2
481.wrf	8	1620	55.2	**1616**	**55.3**	1612	55.4	8	1620	55.2	**1616**	**55.3**	1612	55.4
482.sphinx3	8	1033	151	**1036**	**150**	1038	150	8	**972**	**160**	972	160	972	160

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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