SPEC® CFP2006 Result

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Bull SAS

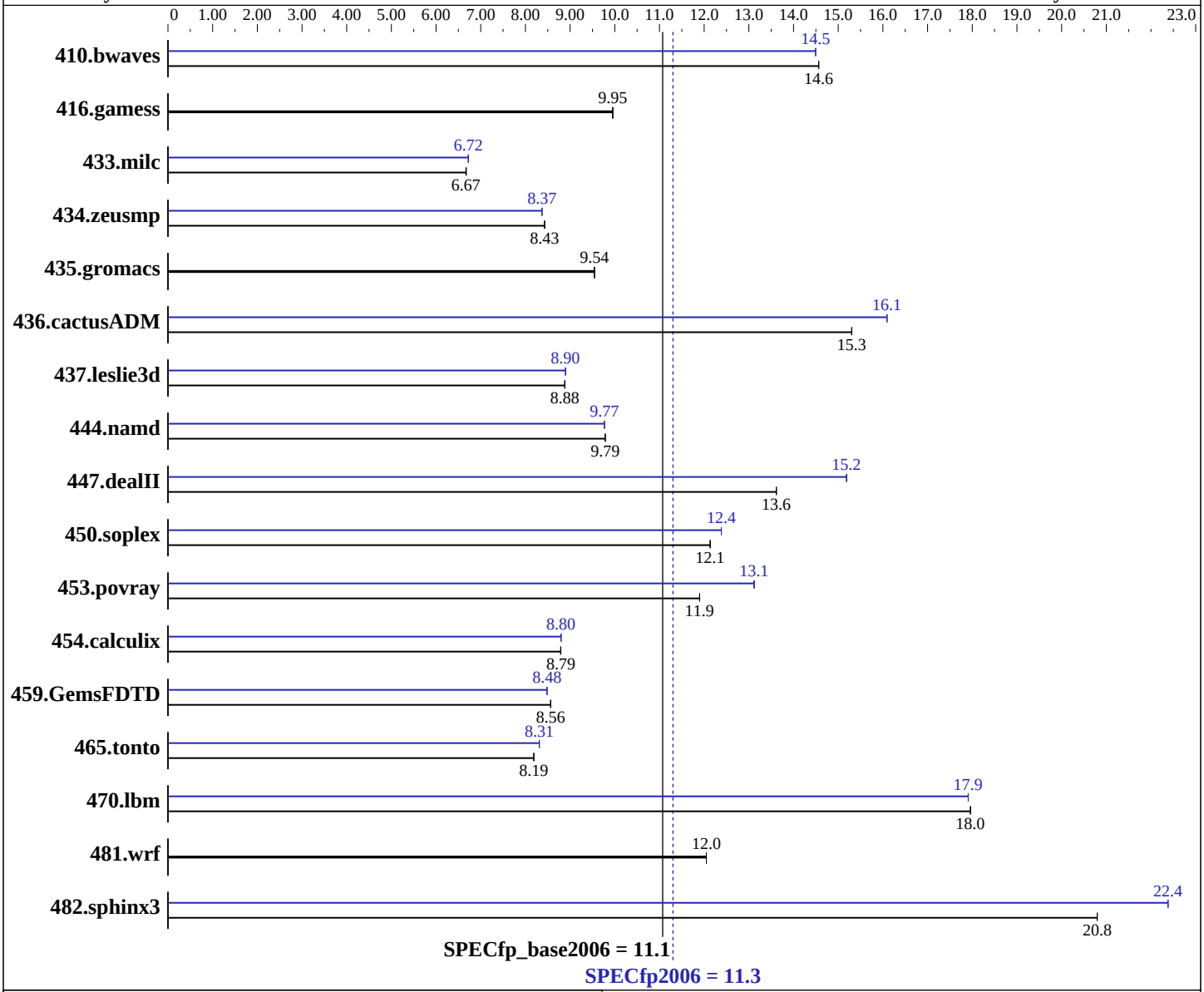
NovaScale R480 (3.40 GHz, Intel Xeon 7140M)

SPECfp®2006 = 11.3

SPECfp_base2006 = 11.1

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:	1 core, 1 chip, 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	933	14.6	**933**	**14.6**	933	14.6	938	14.5	938	14.5	**938**	**14.5**
416.gamess	**1967**	**9.95**	1967	9.95	1967	9.96	**1967**	**9.95**	1967	9.95	1967	9.96
433.milc	1375	6.68	1376	6.67	**1376**	**6.67**	1366	6.72	1365	6.72	**1366**	**6.72**
434.zeusmp	**1080**	**8.43**	1080	8.43	1080	8.43	**1087**	**8.37**	1087	8.37	1087	8.37
435.gromacs	748	9.54	748	9.55	**748**	**9.54**	748	9.54	748	9.55	**748**	**9.54**
436.cactusADM	781	15.3	**781**	**15.3**	781	15.3	**743**	**16.1**	743	16.1	743	16.1
437.leslie3d	1058	8.88	1058	8.88	**1058**	**8.88**	1057	8.90	1056	8.90	**1056**	**8.90**
444.namd	820	9.79	820	9.79	**820**	**9.79**	821	9.77	**821**	**9.77**	821	9.77
447.dealII	840	13.6	**840**	**13.6**	840	13.6	753	15.2	**753**	**15.2**	753	15.2
450.soplex	687	12.1	687	12.1	**687**	**12.1**	**673**	**12.4**	673	12.4	673	12.4
453.povray	447	11.9	**447**	**11.9**	447	11.9	406	13.1	405	13.1	**405**	**13.1**
454.calculix	938	8.79	**938**	**8.79**	939	8.79	938	8.80	938	8.80	**938**	**8.80**
459.GemsFDTD	1239	8.57	1239	8.56	**1239**	**8.56**	1251	8.48	**1251**	**8.48**	1251	8.48
465.tonto	1202	8.19	1202	8.19	**1202**	**8.19**	1184	8.31	**1184**	**8.31**	1184	8.31
470.lbm	**765**	**18.0**	765	18.0	765	18.0	767	17.9	**767**	**17.9**	767	17.9
481.wrf	**927**	**12.0**	927	12.0	927	12.0	**927**	**12.0**	927	12.0	927	12.0
482.sphinx3	**937**	**20.8**	937	20.8	937	20.8	871	22.4	**871**	**22.4**	871	22.4

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

General Notes

```
Other Configuration Notes
/NUMPROC=1 flag was added to boot.ini to invoke
uniprocessor environment

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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