SPEC® CFP2006 Result
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Hewlett-Packard Company

ProLiant DL380 G5
(1.6 GHz, Intel Xeon processor 5110)

$SPECfp^{®}2006 =$ 13.2

$SPECfp\_base2006 =$ 11.7

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

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

410.bwaves	24.4	23.9
416.gamess	11.5	11.1
433.milc	8.41	8.74
434.zeusmp	9.38	9.38
435.gromacs	10.1	10.2
436.cactusADM	38.2	23.2
437.leslie3d		11.6
444.namd	8.55	8.51
447.dealII	17.2	16.2
450.soplex	10.2	9.63
453.povray	14.9	12.9
454.calculix	12.6	8.59
459.GemsFDTD	13.2	13.0
465.tonto	12.0	11.5
470.lbm	13.9	5.49
481.wrf	12.8	13.5
482.sphinx3	14.3	14.4

SPECfp_base2006 = 11.7
SPECfp2006 = 13.2

Hardware

CPU Name: Intel Xeon 5110
CPU Characteristics: 1.6 GHz, 4 MB L2 shared, 1066 MHz system bus
CPU MHz: 1600
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1 or 2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 4 MB I+D on chip per chip

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Software

Operating System: SuSE Linux Enterprise Server 10 (x86_64) SP1 kernel 2.6.16.46-0.12-smp
Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1, Build 20070824
Auto Parallel: Yes
File System: ext2
System State: Multi-user run level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit

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ProLiant DL380 G5
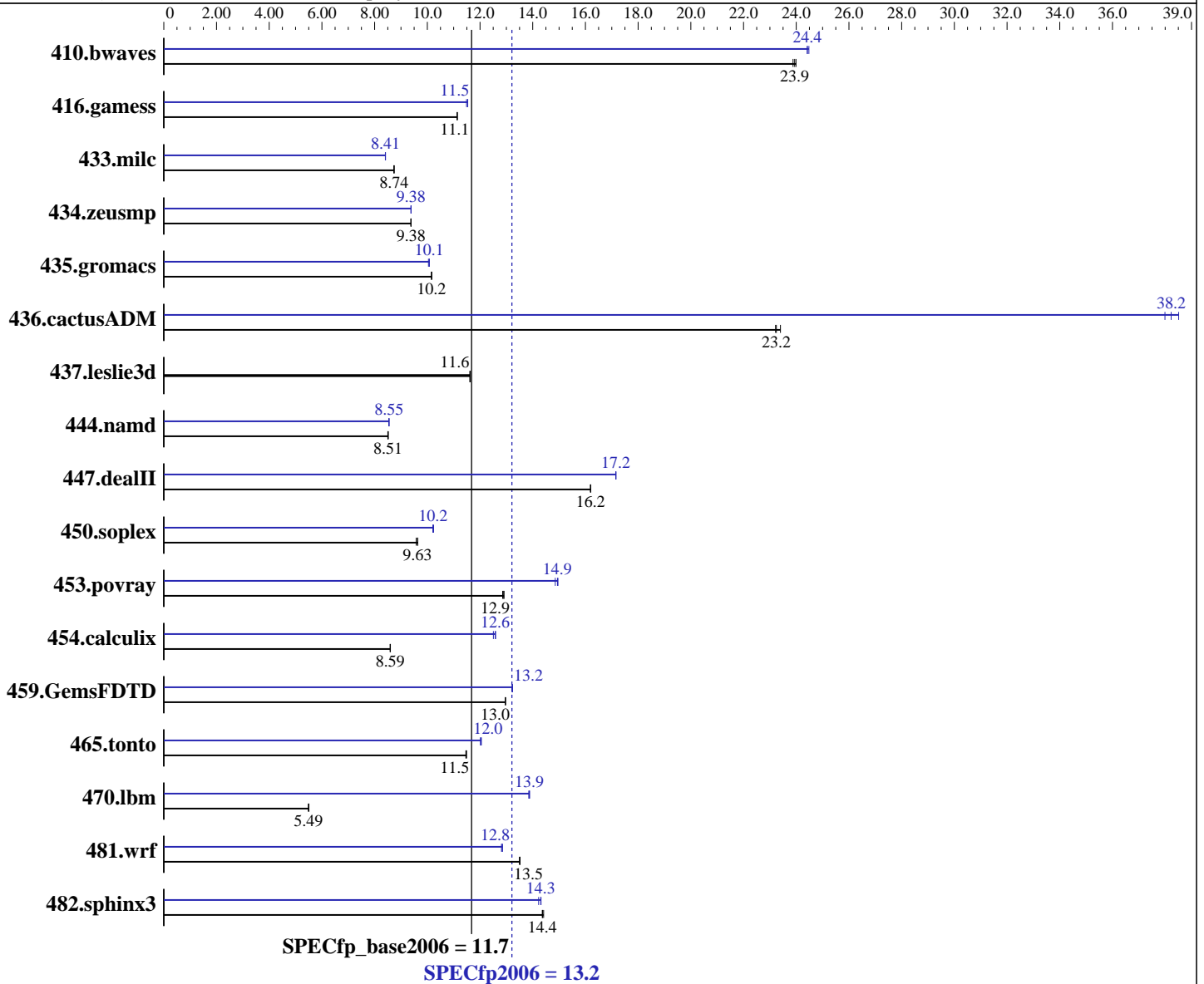(1.6 GHz, Intel Xeon processor 5110)

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L3 Cache:	None	Other Software:	binutils-2.17.50
Other Cache:	None		
Memory:	8 GB (8x1 GB PC2-5300F CL5)		
Disk Subsystem:	1x72 GB 10 K SAS		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**568**	**23.9**	569	23.9	566	24.0	555	24.5	557	24.4	**556**	**24.4**
416.gamess	1759	11.1	1758	11.1	**1759**	**11.1**	**1699**	**11.5**	1698	11.5	1704	11.5
433.milc	**1051**	**8.74**	1050	8.74	1051	8.73	1091	8.41	**1092**	**8.41**	1092	8.41
434.zeusmp	970	9.38	970	9.38	**970**	**9.38**	**970**	**9.38**	970	9.38	970	9.38
435.gromacs	**703**	**10.2**	702	10.2	703	10.2	709	10.1	711	10.0	**709**	**10.1**
436.cactusADM	511	23.4	515	23.2	**514**	**23.2**	315	38.0	**313**	**38.2**	310	38.5
437.leslie3d	**808**	**11.6**	808	11.6	810	11.6	**808**	**11.6**	808	11.6	810	11.6
444.namd	943	8.50	942	8.52	**943**	**8.51**	**938**	**8.55**	938	8.55	939	8.54
447.dealII	**706**	**16.2**	706	16.2	707	16.2	**667**	**17.2**	667	17.2	667	17.2
450.soplex	865	9.64	**866**	**9.63**	871	9.58	817	10.2	815	10.2	**816**	**10.2**
453.povray	414	12.9	**412**	**12.9**	412	12.9	356	15.0	358	14.9	**356**	**14.9**
454.calculix	959	8.60	960	8.59	**960**	**8.59**	655	12.6	660	12.5	**656**	**12.6**
459.GemsFDTD	**818**	**13.0**	819	13.0	818	13.0	802	13.2	**802**	**13.2**	803	13.2
465.tonto	**858**	**11.5**	856	11.5	858	11.5	**818**	**12.0**	819	12.0	816	12.1
470.lbm	2495	5.51	2502	5.49	**2502**	**5.49**	992	13.8	**991**	**13.9**	990	13.9
481.wrf	828	13.5	826	13.5	**827**	**13.5**	872	12.8	**870**	**12.8**	869	12.9
482.sphinx3	1352	14.4	1357	14.4	**1356**	**14.4**	1362	14.3	**1363**	**14.3**	1370	14.2

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 200M
```

Platform Notes

```
BIOS configuration:
  Power Regulator set to Static High Performance Mode
```

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Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

Base Portability Flags

        410.bwaves: -DSPEC_CPU_LP64
        416.gamess: -DSPEC_CPU_LP64
          433.milc: -DSPEC_CPU_LP64
        434.zeusmp: -DSPEC_CPU_LP64
       435.gromacs: -DSPEC_CPU_LP64 -nofor_main
      436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
       437.leslie3d: -DSPEC_CPU_LP64
          444.namd: -DSPEC_CPU_LP64
         447.dealII: -DSPEC_CPU_LP64
         450.soplex: -DSPEC_CPU_LP64
         453.povray: -DSPEC_CPU_LP64
       454.calculix: -DSPEC_CPU_LP64 -nofor_main
      459.GemsFDTD: -DSPEC_CPU_LP64
          465.tonto: -DSPEC_CPU_LP64
           470.lbm: -DSPEC_CPU_LP64
           481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
        482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
    -fast -parallel

C++ benchmarks:
    -fast -parallel

Fortran benchmarks:
    -fast -parallel

Benchmarks using both Fortran and C:
    -fast -parallel

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Peak Compiler Invocation

C benchmarks (except as noted below):
```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include
```

    433.milc: `icc`

C++ benchmarks (except as noted below):
```
icpc
```

    450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/bin/icpc`
              `-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/lib`
              `-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux32/include`

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icc ifort
```

Peak Portability Flags

```
      410.bwaves: -DSPEC_CPU_LP64
      416.gamess: -DSPEC_CPU_LP64
        433.milc: -DSPEC_CPU_LP64
      434.zeusmp: -DSPEC_CPU_LP64
     435.gromacs: -DSPEC_CPU_LP64 -nofor_main
    436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
      437.leslie3d: -DSPEC_CPU_LP64
        444.namd: -DSPEC_CPU_LP64
       447.dealII: -DSPEC_CPU_LP64
       453.povray: -DSPEC_CPU_LP64
      454.calculix: -DSPEC_CPU_LP64 -nofor_main
    459.GemsFDTD: -DSPEC_CPU_LP64
        465.tonto: -DSPEC_CPU_LP64
          481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

    433.milc: `-prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias`
            `-auto-ilp32`

    470.lbm: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2`
           `-scalar-rep- -prefetch -opt-malloc-options=3`

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Peak Optimization Flags (Continued)

482.sphinx3: `-fast -unroll2`

C++ benchmarks:

444.namd: `-prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias -auto-ilp32`

447.dealII: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias -scalar-rep-`

450.soplex: `-prof-gen(pass 1) -prof-use(pass 2) -fast -opt-malloc-options=3`

453.povray: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -ansi-alias`

Fortran benchmarks:

410.bwaves: `-fast -prefetch -parallel`

416.gamess: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -ansi-alias -scalar-rep-`

434.zeusmp: `-prof-gen(pass 1) -prof-use(pass 2) -fast`

437.leslie3d: basepeak = yes

459.GemsFDTD: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -prefetch -parallel`

465.tonto: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto`

Benchmarks using both Fortran and C:

435.gromacs: `-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32`

436.cactusADM: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -prefetch -parallel -auto-ilp32`

454.calculix: `-fast -unroll-aggressive -auto-ilp32`

481.wrf: `-fast -parallel -prefetch -auto-ilp32`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-flags.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-flags.20090714.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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