SPEC® CFP2006 Result

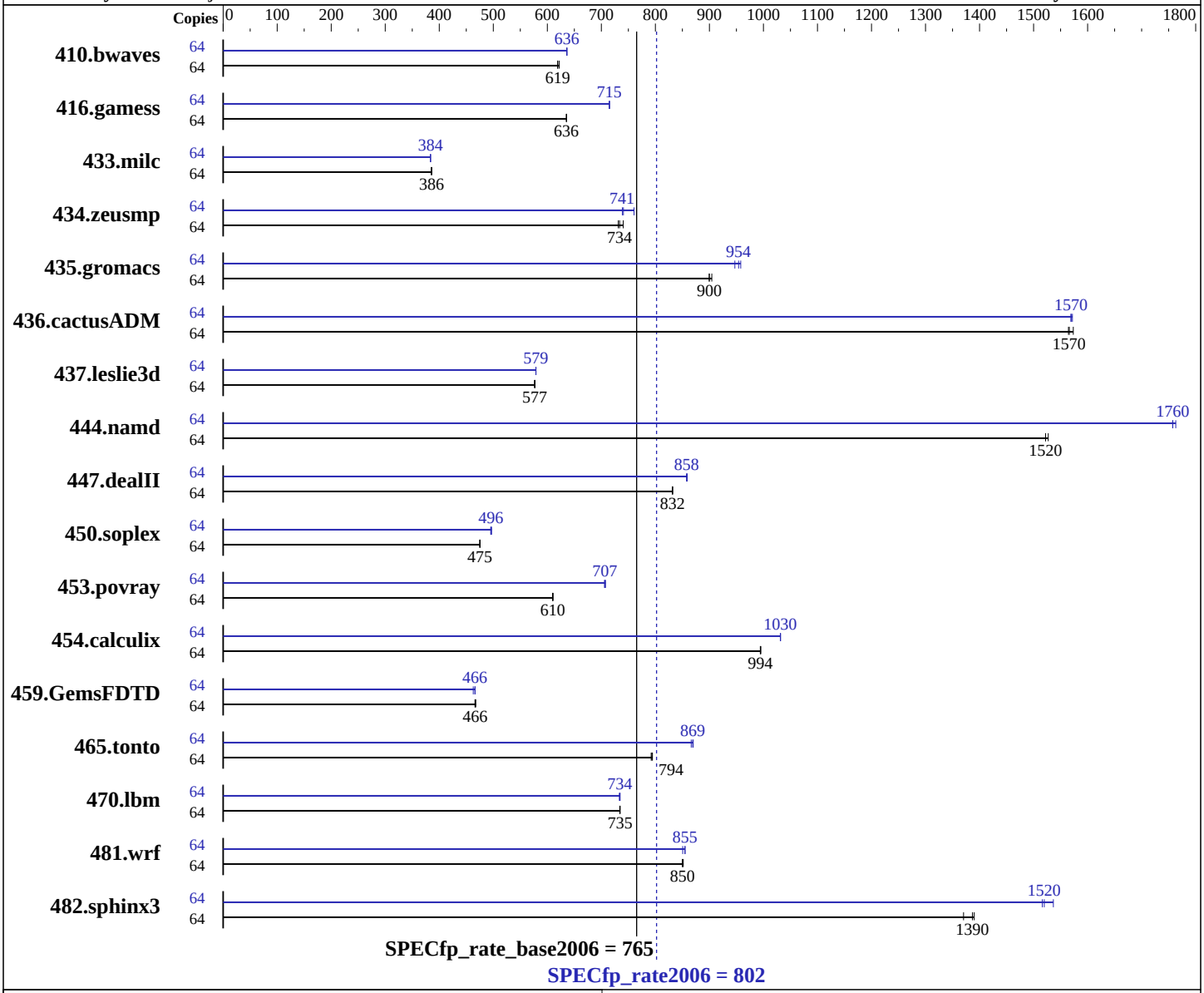
Fujitsu Limited
PRIMEQUEST 580A

SPECfp®_rate2006 = 802

SPECfp_rate_base2006 = 765

CPU2006 license: 19
Test sponsor: Fujitsu Limited
Tested by: Fujitsu Limited

Test date: Mar-2008
Hardware Availability: May-2008
Software Availability: Feb-2008



Hardware

CPU Name:	Dual-Core Intel Itanium 9150M
CPU Characteristics:	1.66GHz/24MB, 667MHz FSB
CPU MHz:	1667
FPU:	Integrated
CPU(s) enabled:	64 cores, 32 chips, 2 cores/chip
CPU(s) orderable:	2-32 chips
Primary Cache:	16 KB I + 16 KB D on chip per core
Secondary Cache:	1 MB I + 256 KB D on chip per core

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Software

Operating System:	Red Hat Enterprise Linux 5.1, Kernel 2.6.18-53.el5 on an ia64
Compiler:	Intel C++ Compiler for Linux 10.1 (Build 20080112) Intel Fortran Compiler for Linux 10.1 (Build 20080112)
Auto Parallel:	No
File System:	ext2

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L3 Cache:	12 MB I+D on chip per core
Other Cache:	None
Memory:	512 GB (256 x 2GB DDR2-667 DIMMs)
Disk Subsystem:	2 x 147GB (SCSI Ultra 320, 10000rpm) No RAID configuration
Other Hardware:	None

System State:	Runlevel 1 (single user mode)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	64	1405	619	**1404**	**619**	1398	622	64	1367	636	1367	636	**1367**	**636**
416.gamess	64	1972	636	**1972**	**636**	1973	635	64	**1753**	**715**	1753	715	1753	715
433.milc	64	1522	386	**1523**	**386**	1525	385	64	1530	384	1532	384	**1531**	**384**
434.zeusmp	64	786	741	796	731	**794**	**734**	64	766	760	**786**	**741**	788	739
435.gromacs	64	505	904	**508**	**900**	508	900	64	**479**	**954**	482	947	477	958
436.cactusADM	64	**488**	**1570**	486	1570	489	1560	64	**487**	**1570**	487	1570	487	1570
437.leslie3d	64	**1043**	**577**	1042	577	1044	576	64	1039	579	**1039**	**579**	1039	579
444.namd	64	337	1520	336	1530	**337**	**1520**	64	291	1760	292	1760	**292**	**1760**
447.dealII	64	880	832	**880**	**832**	881	831	64	852	859	853	858	**853**	**858**
450.soplex	64	1123	475	1124	475	**1123**	**475**	64	**1077**	**496**	1074	497	1078	495
453.povray	64	558	610	**558**	**610**	558	611	64	482	706	**482**	**707**	481	708
454.calculix	64	531	995	**531**	**994**	531	994	64	512	1030	512	1030	**512**	**1030**
459.GemsFDTD	64	1452	468	1456	466	**1456**	**466**	64	1456	466	**1457**	**466**	1467	463
465.tonto	64	**794**	**794**	793	795	795	792	64	727	866	724	870	**725**	**869**
470.lbm	64	**1197**	**735**	1197	735	1198	734	64	1197	735	**1198**	**734**	1199	733
481.wrf	64	841	850	**841**	**850**	839	852	64	836	855	840	851	**836**	**855**
482.sphinx3	64	910	1370	**899**	**1390**	897	1390	64	**821**	**1520**	812	1540	823	1520

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

General Notes

```
Processes are bound to CPUs using taskset.

limit stacksize unlimited

Memory system is in "Non Mirror Mode".

The following 2 environment variables were set
    MALLOC_MMAP_MAX_=0
    MALLOC_TRIM_THRESHOLD_=-1
This will cause use of sbrk() calls instead of
mmap() calls to get memory from the system.
```

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_LINUX -DSPEC_CPU_CASE_FLAG
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-fast -IPF_fp_relaxed -opt-prefetch-next-iteration -ansi-alias

C++ benchmarks:
-fast -IPF_fp_relaxed -opt-prefetch-next-iteration -ansi-alias

Fortran benchmarks:
-fast -IPF-fp-relaxed -opt-prefetch-next-iteration

Benchmarks using both Fortran and C:
-fast -IPF_fp_relaxed -opt-prefetch-next-iteration -ansi-alias
-IPF-fp-relaxed

Peak Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -fast -IPF-fp-relaxed -opt-prefetch-next-iteration
-fno-alias -ansi-alias

470.lbm: -fast -IPF-fp-relaxed -opt-prefetch-next-iteration
-ansi-alias

482.sphinx3: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed
-opt-prefetch-next-iteration -fno-alias
-no-opt-prefetch-initial-values -ansi-alias

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed
-opt-prefetch-next-iteration -no-prefetch -auto-ilp32
-fno-alias -ansi-alias

447.dealII: -fast -IPF-fp-relaxed -opt-prefetch-next-iteration
-inline-factor=150 -no-alias-args -no-opt-loadpair
-ansi-alias

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed
-opt-prefetch-next-iteration -auto-ilp32 -no-alias-args
-ansi-alias

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF-fp-relaxed
-opt-prefetch-next-iteration -inline-factor=150 -ansi-alias

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration`

416.gamess: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -no-prefetch`

434.zeusmp: `Same as 410.bwaves`

437.leslie3d: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -no-opt-loadpair`

459.GemsFDTD: `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration`

465.tonto: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -inline-factor=150 -no-prefetch`

Benchmarks using both Fortran and C:

435.gromacs: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -no-prefetch -fno-alias -ansi-alias`

436.cactusADM: `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -ansi-alias`

454.calculix: `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -inline-factor=150 -no-opt-prefetch-initial-values -ansi-alias`

481.wrf: `-fast -IPF-fp-relaxed -opt-prefetch-next-iteration -no-opt-loadpair -ansi-alias`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Fujitsu.PQ580A.ipf.linux.flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Fujitsu.PQ580A.ipf.linux.flags.xml`

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

Tested with SPEC CPU2006 v1.0.1.
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