SPEC® CFP2006 Result

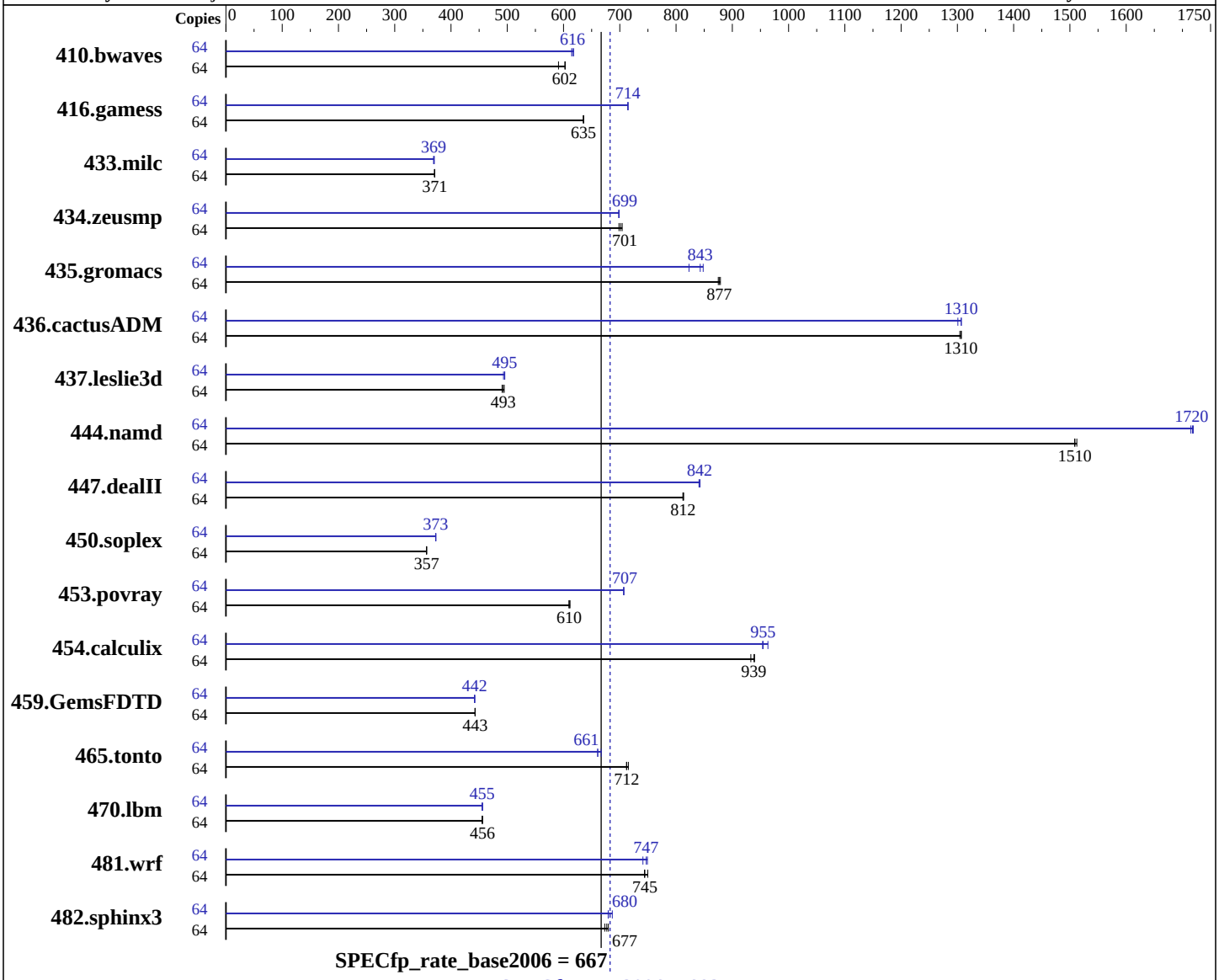
Fujitsu Limited
PRIMEQUEST 580A

SPECfp®_rate2006 = 683

SPECfp_rate_base2006 = 667

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 9130M
CPU Characteristics:	1.66GHz/8MB, 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:	4 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	1472	591	**1444**	**602**	1442	603	64	1407	618	**1412**	**616**	1415	615
416.gamess	64	1971	636	**1972**	**635**	1973	635	64	1754	714	1754	715	**1754**	**714**
433.milc	64	1586	370	1583	371	**1583**	**371**	64	**1591**	**369**	1591	369	1586	370
434.zeusmp	64	834	698	**830**	**701**	827	704	64	834	699	**834**	**699**	834	698
435.gromacs	64	520	879	522	875	**521**	**877**	64	539	848	555	823	**542**	**843**
436.cactusADM	64	**585**	**1310**	585	1310	586	1300	64	588	1300	**585**	**1310**	585	1310
437.leslie3d	64	1216	495	**1220**	**493**	1226	491	64	**1215**	**495**	1214	496	1219	493
444.namd	64	339	1510	340	1510	**340**	**1510**	64	**299**	**1720**	299	1720	299	1710
447.dealII	64	901	812	900	814	**901**	**812**	64	871	841	869	843	**870**	**842**
450.soplex	64	1498	356	1496	357	**1497**	**357**	64	1430	373	**1431**	**373**	1432	373
453.povray	64	559	610	557	612	**558**	**610**	64	482	707	**482**	**707**	482	707
454.calculix	64	562	940	**563**	**939**	566	933	64	**553**	**955**	554	954	548	963
459.GemsFDTD	64	**1533**	**443**	1533	443	1534	443	64	1535	442	**1536**	**442**	1538	442
465.tonto	64	880	715	884	712	**884**	**712**	64	**953**	**661**	953	661	944	667
470.lbm	64	**1929**	**456**	1932	455	1928	456	64	1927	456	**1931**	**455**	1931	455
481.wrf	64	953	750	961	744	**960**	**745**	64	954	749	**957**	**747**	965	741
482.sphinx3	64	1853	673	**1843**	**677**	1835	680	64	**1835**	**680**	1816	687	1836	679

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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