SPEC® CFP2006 Result
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Fujitsu Limited
PRIMEQUEST 540

$SPECfp®\_rate2006 =$ 355
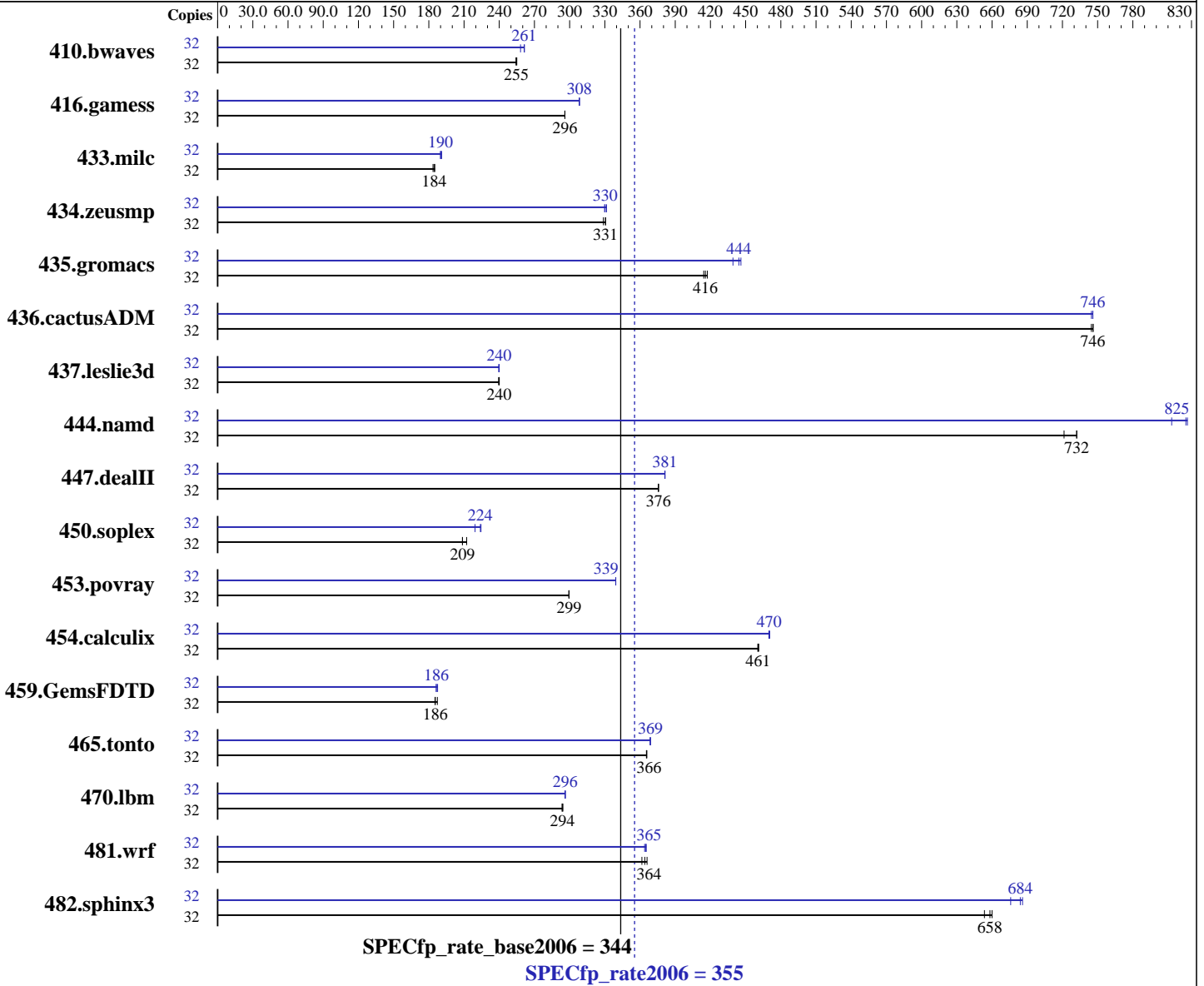
$SPECfp\_rate\_base2006 =$ 344

CPU2006 license: 19

Test sponsor: Fujitsu Limited

Tested by: Fujitsu Limited

Test date: May-2007

Hardware Availability: Aug-2006

Software Availability: Apr-2007

Copies		
410.bwaves	32	261
	32	255
416.gamess	32	308
	32	296
433.milc	32	190
	32	184
434.zeusmp	32	330
	32	331
435.gromacs	32	444
	32	416
436.cactusADM	32	746
	32	746
437.leslie3d	32	240
	32	240
444.namd	32	825
	32	732
447.dealII	32	381
	32	376
450.soplex	32	224
	32	209
453.povray	32	339
	32	299
454.calculix	32	470
	32	461
459.GemsFDTD	32	186
	32	186
465.tonto	32	369
	32	366
470.lbm	32	296
	32	294
481.wrf	32	365
	32	364
482.sphinx3	32	684
	32	658

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Hardware

CPU Name: Dual-Core Intel Itanium 2 9050

CPU Characteristics: 1.6GHz/24MB, 533MHz FSB

CPU MHz: 1600

FPU: Integrated

CPU(s) enabled: 32 cores, 16 chips, 2 cores/chip

CPU(s) orderable: 1-16 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux 5

Compiler: Intel C++ Compiler for Linux 9.1
(Build 20061105)
Intel Fortran Compiler for Linux 9.1
(Build 20061105)

Auto Parallel: No

File System: ext2

System State: Single-user

Continued on next page

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L3 Cache:	12 MB I+D on chip per core
Other Cache:	None
Memory:	128 GB (128 x 1GB DDR2-533 DIMMs)
Disk Subsystem:	Fujitsu MAW3147NC (SCSI Ultra 320) x 2 147GB 10,025rpm, No RAID configuration
Other Hardware:	None

Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	1706	255	1710	254	**1709**	**255**	32	1663	261	**1664**	**261**	1685	258
416.gamess	32	2117	296	**2117**	**296**	2117	296	32	2033	308	2032	308	**2032**	**308**
433.milc	32	1587	185	**1592**	**184**	1600	184	32	**1545**	**190**	1547	190	1538	191
434.zeusmp	32	881	331	886	329	**881**	**331**	32	879	331	**881**	**330**	883	330
435.gromacs	32	551	414	**550**	**416**	547	417	32	512	446	520	439	**514**	**444**
436.cactusADM	32	514	745	**513**	**746**	512	746	32	**513**	**746**	513	746	513	745
437.leslie3d	32	1256	239	**1254**	**240**	1253	240	32	1256	240	1253	240	**1254**	**240**
444.namd	32	356	721	**351**	**732**	351	732	32	311	827	316	813	**311**	**825**
447.dealII	32	975	376	**974**	**376**	974	376	32	960	381	961	381	**960**	**381**
450.soplex	32	**1279**	**209**	1279	209	1257	212	32	1189	224	1217	219	**1192**	**224**
453.povray	32	568	300	**568**	**299**	569	299	32	502	339	502	339	**502**	**339**
454.calculix	32	573	460	**573**	**461**	572	461	32	561	471	562	470	**562**	**470**
459.GemsFDTD	32	**1830**	**186**	1813	187	1833	185	32	1811	187	1822	186	**1822**	**186**
465.tonto	32	862	365	**861**	**366**	861	366	32	**854**	**369**	854	369	854	369
470.lbm	32	1494	294	**1497**	**294**	1498	294	32	1484	296	1485	296	**1484**	**296**
481.wrf	32	989	362	977	366	**982**	**364**	32	**980**	**365**	982	364	978	365
482.sphinx3	32	954	654	**947**	**658**	945	660	32	909	686	923	676	**912**	**684**

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".
```

Base Compiler Invocation

C benchmarks:
```
    icc
```

C++ benchmarks:
```
    icpc
```

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Base Compiler Invocation (Continued)

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 -ansi-alias
```

C++ benchmarks:
```
-fast -IPF_fp_relaxed -ansi-alias
```

Fortran benchmarks:
```
-fast -IPF_fp_relaxed
```

Benchmarks using both Fortran and C:
```
-fast -IPF_fp_relaxed -ansi-alias
```

Peak Compiler Invocation

C benchmarks:
```
icc
```

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Peak Compiler Invocation (Continued)

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 -auto-ilp32 -ansi-alias -fno-alias
                  -inline-min-size=2750 -inline-max-size=2750

        470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed

        482.sphinx3: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed
                  -auto-ilp32

C++ benchmarks:

        444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -auto-ilp32
                  -fno-alias -no-prefetch

        447.dealII: -fast -IPF_fp_relaxed -ansi-alias -mtune=itanium2-p9000
                  -fno-alias -no-alias-args

        450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -O2 -static -ipo
                  -ansi-alias -inline-factor=150

        453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed
                  -ansi-alias -inline-max-size=1000

Fortran benchmarks:

        410.bwaves: -prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed

        416.gamess: -fast -IPF_fp_relaxed -inline-max-size=100

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Peak Optimization Flags (Continued)

　434.zeusmp: `-fast -IPF_fp_relaxed`

　437.leslie3d: `Same as 434.zeusmp`

　459.GemsFDTD: `Same as 434.zeusmp`

　465.tonto: `-fast -IPF_fp_relaxed -mtune=itanium2-p9000`

Benchmarks using both Fortran and C:

　435.gromacs: `-prof-gen(pass 1) -prof-use(pass 2) -fast -IPF_fp_relaxed`
　　　　`-fno-alias -inline-max-size=400 -inline-max-per-routine=400`

　436.cactusADM: `-fast -IPF_fp_relaxed`

　454.calculix: `-fast -IPF_fp_relaxed -fno-alias`

　481.wrf: `-fast -IPF_fp_relaxed -inline-max-per-routine=100`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Fujitsu.PQ580.ipf.linux.flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Fujitsu.PQ580.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.
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