SPEC® CFP2006 Result
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NTT System S. A.
NTT Tytan S8 Series

$SPECfp®\_rate2006 =$ 75.9

$SPECfp\_rate\_base2006 =$ 69.1

Benchmark	Copies	Result
410.bwaves	4	36.1
	8	35.3
416.gamess	8	162
	8	158
433.milc	8	32.6
	8	32.5
434.zeusmp	8	75.0
	8	72.8
435.gromacs	8	139
	8	140
436.cactusADM	1	104
	8	83.1
437.leslie3d	4	34.4
	8	31.6
444.namd	8	113
	8	116
447.dealII	8	141
	8	134
450.soplex	8	39.5
	8	35.7
453.povray	8	212
	8	178
454.calculix	8	155
	8	152
459.GemsFDTD	8	27.5
	8	28.2
465.tonto	8	120
	8	112
470.lbm	4	38.7
	8	26.4
481.wrf	8	52.9
482.sphinx3	4	93.1
	8	57.9

SPECfp_rate_base2006 = 69.1

SPECfp_rate2006 = 75.9

Hardware

CPU Name:	Intel Xeon E5430
CPU Characteristics:	2.66 GHz, 2x6 MB P2 shared, 1333 MHz System Bus
CPU MHz:	2666
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

Software

Operating System:	SuSe Linux SLES10 SP1, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066, l_cprof_p_11.0.066
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

Continued on next page

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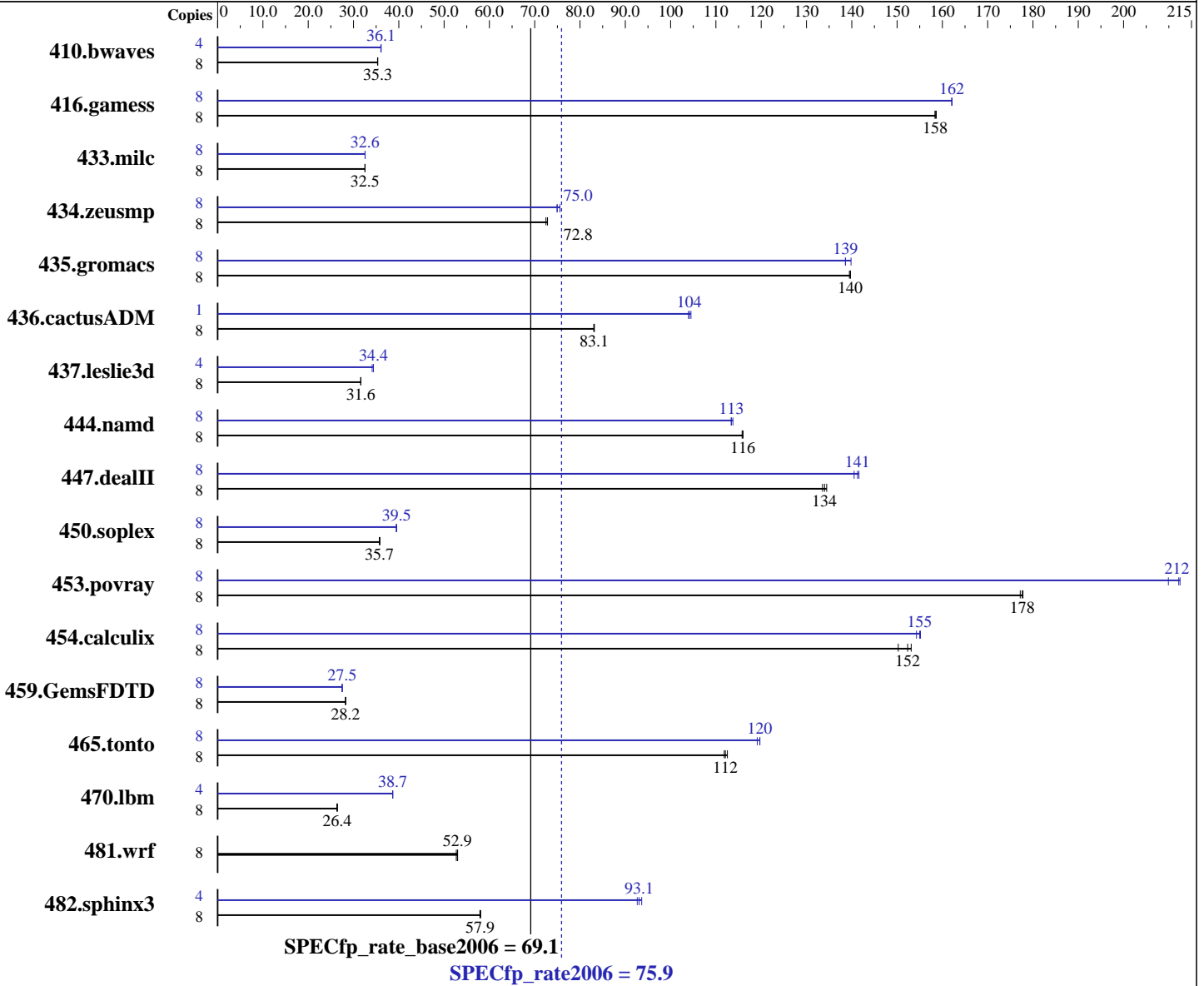
SPECfp_rate_base2006 = 69.1

CPU2006 license: 9013　　　　　　　　　　　　　　　　　　　　　　**Test date:**　　　Jan-2009
Test sponsor:　　NTT System S. A.　　　　　　　　　　　　　　**Hardware Availability:** Dec-2008
Tested by:　　　　NTT System S. A.　　　　　　　　　　　　　　**Software Availability:**　Dec-2008

L3 Cache:	None
Other Cache:	None
Memory:	16 GB (4 x 4GB DDR2-667 FBDIMM)
Disk Subsystem:	300 GB SATA, 7200RPM
Other Hardware:	None

Other Software:　　Microquill SmartHeap V8.1
　　　　　　　　　　Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**3077**	**35.3**	3076	35.3	3080	35.3	4	**1507**	**36.1**	1506	36.1	1509	36.0
416.gamess	8	989	158	987	159	**989**	**158**	8	966	162	**966**	**162**	967	162
433.milc	8	2256	32.5	2258	32.5	**2257**	**32.5**	8	2255	32.6	**2256**	**32.6**	2257	32.5
434.zeusmp	8	**1000**	**72.8**	1000	72.8	1004	72.5	8	972	74.9	963	75.6	**971**	**75.0**
435.gromacs	8	410	139	**409**	**140**	409	140	8	**412**	**139**	412	139	408	140
436.cactusADM	8	**1150**	**83.1**	1149	83.2	1151	83.0	1	114	104	**115**	**104**	115	104
437.leslie3d	8	**2379**	**31.6**	2380	31.6	2378	31.6	4	**1093**	**34.4**	1093	34.4	1102	34.1
444.namd	8	554	116	**553**	**116**	553	116	8	566	113	**566**	**113**	564	114
447.dealII	8	**683**	**134**	681	134	685	134	8	651	141	646	142	**648**	**141**
450.soplex	8	1868	35.7	**1867**	**35.7**	1862	35.8	8	1692	39.4	**1689**	**39.5**	1689	39.5
453.povray	8	**240**	**178**	240	177	239	178	8	200	212	203	210	**201**	**212**
454.calculix	8	**433**	**152**	439	150	431	153	8	425	155	428	154	**426**	**155**
459.GemsFDTD	8	3006	28.2	**3006**	**28.2**	3005	28.2	8	3087	27.5	**3087**	**27.5**	3086	27.5
465.tonto	8	704	112	**702**	**112**	700	113	8	658	120	**658**	**120**	661	119
470.lbm	8	4177	26.3	**4159**	**26.4**	4158	26.4	4	1422	38.7	**1422**	**38.7**	1422	38.6
481.wrf	8	**1688**	**52.9**	1696	52.7	1687	53.0	8	**1688**	**52.9**	1696	52.7	1687	53.0
482.sphinx3	8	**2691**	**57.9**	2693	57.9	2684	58.1	4	833	93.6	842	92.6	**838**	**93.1**

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

Submit Notes

```
The config file option 'submit' was used.
 taskset was used to bind processes to cores except
 for 436.cactusADM peak
 OMP_NUM_THREADS set to number of processors
 KMP_AFFINITY set to "physical,0"
 KMP_STACKSIZE set to 64M
```

Base Compiler Invocation

C benchmarks:
```
icc
```

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Test date: Jan-2009
Hardware Availability: Dec-2008
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Base Compiler Invocation (Continued)

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:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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Tested by: NTT System S. A.

Test date: Jan-2009
Hardware Availability: Dec-2008
Software Availability: Dec-2008

Peak Compiler Invocation

C benchmarks:
     icc

C++ benchmarks:
     icpc

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
          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
           470.lbm: -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) -xSSE4.1 -ipo -O3
                  -no-prec-div -static -fno-alias

         470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
                  -auto-ilp32

      482.sphinx3: -m32 -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

        444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
                  -no-prec-div -static -fno-alias -auto-ilp32

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Peak Optimization Flags (Continued)

447.dealII: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-`

450.soplex: `-m32 -prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo`
`-O3 -no-prec-div -static -opt-malloc-options=3`

453.povray: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -unroll4 -ansi-alias`

Fortran benchmarks:

410.bwaves: `-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`

416.gamess: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -unroll2 -Ob0 -ansi-alias`
`-scalar-rep-`

434.zeusmp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static`

437.leslie3d: `-m32 -prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo`
`-O3 -no-prec-div -static -opt-malloc-options=3`
`-opt-prefetch`

459.GemsFDTD: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -unroll2 -Ob0 -opt-prefetch`

465.tonto: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -unroll4 -auto`

Benchmarks using both Fortran and C:

435.gromacs: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -opt-prefetch -auto-ilp32`

436.cactusADM: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xSSE4.1 -ipo -O3`
`-no-prec-div -static -unroll2 -opt-prefetch -parallel`
`-auto-ilp32`

454.calculix: `-xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.03.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.03.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.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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