SPEC® CFP2006 Result

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ScaleMP

(Test Sponsor: ScaleMP / Cyfronet)

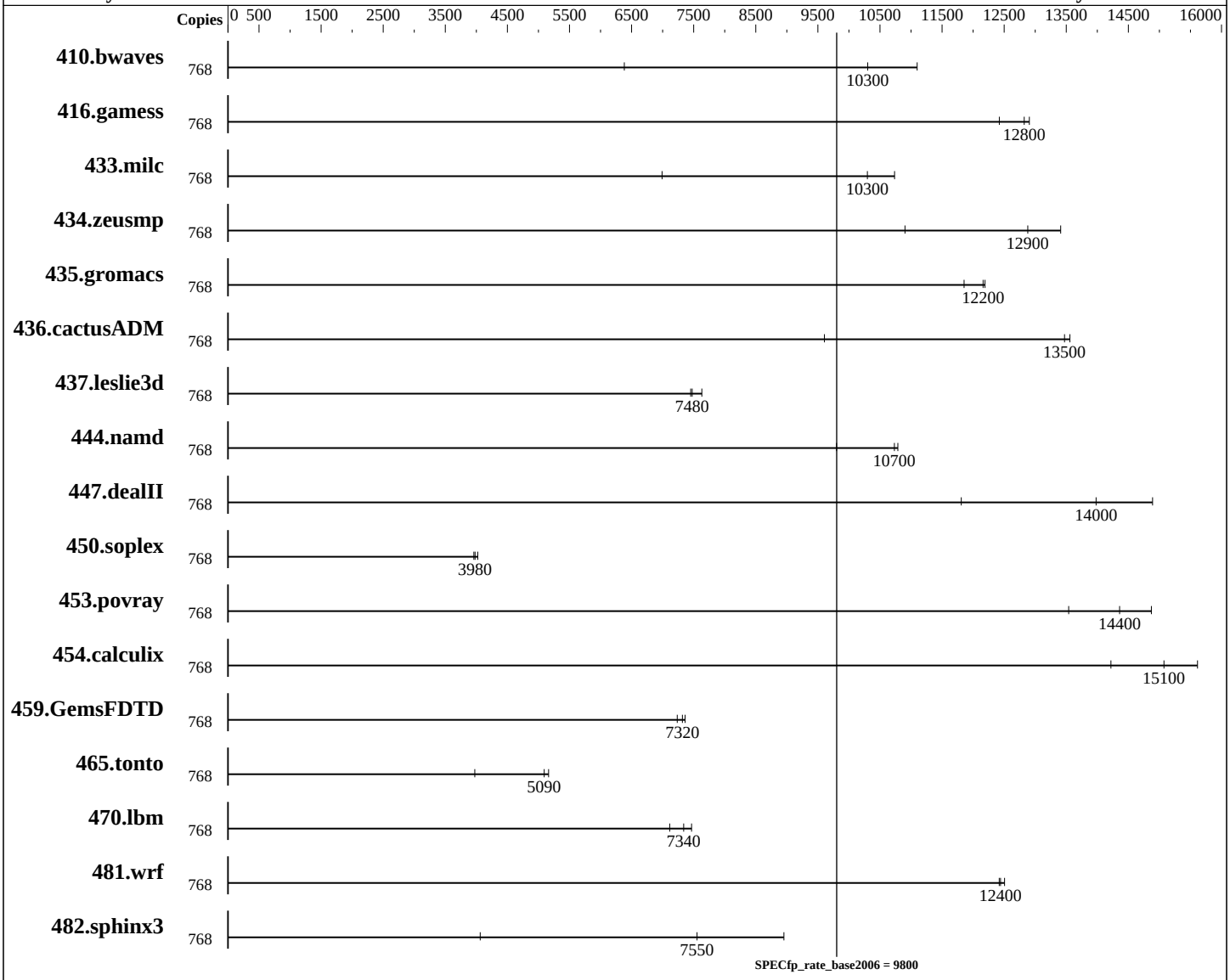
vSMP Foundation (Intel Xeon X5650, 2.67 GHz)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 9800

CPU2006 license: 2929
Test sponsor: ScaleMP / Cyfronet
Tested by: ScaleMP

Test date: Dec-2011
Hardware Availability: Nov-2011
Software Availability: Nov-2011



Hardware

CPU Name:	Intel Xeon X5650
CPU Characteristics:	Intel Turbo Boost Technology is not-enabled
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	768 cores, 128 chips, 6 cores/chip
CPU(s) orderable:	2 to 64 blades with 2 chips per blade
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

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Software

Operating System:	CentOS release 5.5 (Final) Kernel: 2.6.32.50-1.vSMP
Compiler:	C/C++/Fortran: Version 11.1.073 of Intel Compiler for Linux
Auto Parallel:	No
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: 1200 GB I+D off chip per system
Memory: 6 TB (64 x 12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 4 x 160GB SATA
Other Hardware: None

Peak Pointers: Not Applicable
Other Software: Hoard (libhoard) 3.8, released Nov 9, 2009
ScaleMP vSMP Foundation 4.0.110.0

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	768	1635	6380	940	11100	**1013**	**10300**							
416.gamess	768	1211	12400	1165	12900	**1173**	**12800**							
433.milc	768	1009	6990	**685**	**10300**	657	10700							
434.zeusmp	768	641	10900	**543**	**12900**	521	13400							
435.gromacs	768	463	11900	**451**	**12200**	450	12200							
436.cactusADM	768	956	9600	**681**	**13500**	677	13600							
437.leslie3d	768	969	7450	**966**	**7480**	946	7630							
444.namd	768	628	9800	571	10800	**574**	**10700**							
447.dealII	768	**628**	**14000**	590	14900	744	11800							
450.soplex	768	**1610**	**3980**	1592	4020	1618	3960							
453.povray	768	**285**	**14400**	302	13500	275	14900							
454.calculix	768	446	14200	406	15600	**420**	**15100**							
459.GemsFDTD	768	**1113**	**7320**	1107	7360	1126	7240							
465.tonto	768	1901	3970	**1484**	**5090**	1464	5160							
470.lbm	768	1413	7470	**1438**	**7340**	1483	7110							
481.wrf	768	691	12400	686	12500	**690**	**12400**							
482.sphinx3	768	1672	8950	**1982**	**7550**	3685	4060							

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.
The taskset command was used to bind processes to cores.
```

Operating System Notes

```
'ulimit -s unlimited' was used to set environment stack size
```

Platform Notes

```
BIOS Settings
    Hyper-Threading Technology set to ON. Disabled by vSMP Foundation.
ScaleMP
    vSMP Foundation: 4.0.110.0
```

Continued on next page

Platform Notes (Continued)

```
      See http://www.scalemp.com
  Hardware Details:
     System was aggregated using 64 X HP BL490c G6 blades.
     The servers were connected with Melanox InfiniBand QDR and a
     QDR switch.
  CPU Characteristics: Intel Turbo Boost Technology not enabled:
     As the prerequisites listed below for enablement of this
     technology did not exist.
     - Hardware: Enabling Turbo Boost Technology require BIOS setting.
     - Software: OS needs to be ACPI-aware and set P0 power state.
Sysinfo program /mnt/md0/SPEC_CPU2006v1.2/Docs/sysinfo
$Rev: 6775 $ $Date:: 2011-08-16 #$ 8787f7622badcf24e01c368b1db4377c
running on n4-1-1 Sat Dec 24 08:10:34 2011

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU X5650 @ 2.67GHz
      128 "physical id"s (chips)
      768 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 6
      siblings  : 6
      physical 0: cores 0 1 2 8 9 10
      physical 1: cores 0 1 2 8 9 10
      physical 8: cores 0 1 2 8 9 10
      physical 9: cores 0 1 2 8 9 10
      physical 16: cores 0 1 2 8 9 10
      physical 17: cores 0 1 2 8 9 10
      physical 24: cores 0 1 2 8 9 10
      physical 25: cores 0 1 2 8 9 10
      physical 32: cores 0 1 2 8 9 10
      physical 33: cores 0 1 2 8 9 10
      physical 40: cores 0 1 2 8 9 10
      physical 41: cores 0 1 2 8 9 10
      physical 48: cores 0 1 2 8 9 10
      physical 49: cores 0 1 2 8 9 10
      physical 56: cores 0 1 2 8 9 10
      physical 57: cores 0 1 2 8 9 10
      physical 64: cores 0 1 2 8 9 10
      physical 65: cores 0 1 2 8 9 10
      physical 72: cores 0 1 2 8 9 10
      physical 73: cores 0 1 2 8 9 10
      physical 80: cores 0 1 2 8 9 10
      physical 81: cores 0 1 2 8 9 10
      physical 88: cores 0 1 2 8 9 10
      physical 89: cores 0 1 2 8 9 10
      physical 96: cores 0 1 2 8 9 10
```

Continued on next page

Platform Notes (Continued)

```
physical 97: cores 0 1 2 8 9 10
physical 104: cores 0 1 2 8 9 10
physical 105: cores 0 1 2 8 9 10
physical 112: cores 0 1 2 8 9 10
physical 113: cores 0 1 2 8 9 10
physical 120: cores 0 1 2 8 9 10
physical 121: cores 0 1 2 8 9 10
physical 128: cores 0 1 2 8 9 10
physical 129: cores 0 1 2 8 9 10
physical 136: cores 0 1 2 8 9 10
physical 137: cores 0 1 2 8 9 10
physical 144: cores 0 1 2 8 9 10
physical 145: cores 0 1 2 8 9 10
physical 152: cores 0 1 2 8 9 10
physical 153: cores 0 1 2 8 9 10
physical 160: cores 0 1 2 8 9 10
physical 161: cores 0 1 2 8 9 10
physical 168: cores 0 1 2 8 9 10
physical 169: cores 0 1 2 8 9 10
physical 176: cores 0 1 2 8 9 10
physical 177: cores 0 1 2 8 9 10
physical 184: cores 0 1 2 8 9 10
physical 185: cores 0 1 2 8 9 10
physical 192: cores 0 1 2 8 9 10
physical 193: cores 0 1 2 8 9 10
physical 200: cores 0 1 2 8 9 10
physical 201: cores 0 1 2 8 9 10
physical 208: cores 0 1 2 8 9 10
physical 209: cores 0 1 2 8 9 10
physical 216: cores 0 1 2 8 9 10
physical 217: cores 0 1 2 8 9 10
physical 224: cores 0 1 2 8 9 10
physical 225: cores 0 1 2 8 9 10
physical 232: cores 0 1 2 8 9 10
physical 233: cores 0 1 2 8 9 10
physical 240: cores 0 1 2 8 9 10
physical 241: cores 0 1 2 8 9 10
physical 248: cores 0 1 2 8 9 10
physical 249: cores 0 1 2 8 9 10
physical 256: cores 0 1 2 8 9 10
physical 257: cores 0 1 2 8 9 10
physical 264: cores 0 1 2 8 9 10
physical 265: cores 0 1 2 8 9 10
physical 272: cores 0 1 2 8 9 10
physical 273: cores 0 1 2 8 9 10
physical 280: cores 0 1 2 8 9 10
physical 281: cores 0 1 2 8 9 10
physical 288: cores 0 1 2 8 9 10
physical 289: cores 0 1 2 8 9 10
physical 296: cores 0 1 2 8 9 10
physical 297: cores 0 1 2 8 9 10
physical 304: cores 0 1 2 8 9 10
```

Continued on next page

Platform Notes (Continued)

```
        physical 305: cores 0 1 2 8 9 10
        physical 312: cores 0 1 2 8 9 10
        physical 313: cores 0 1 2 8 9 10
        physical 320: cores 0 1 2 8 9 10
        physical 321: cores 0 1 2 8 9 10
        physical 328: cores 0 1 2 8 9 10
        physical 329: cores 0 1 2 8 9 10
        physical 336: cores 0 1 2 8 9 10
        physical 337: cores 0 1 2 8 9 10
        physical 344: cores 0 1 2 8 9 10
        physical 345: cores 0 1 2 8 9 10
        physical 352: cores 0 1 2 8 9 10
        physical 353: cores 0 1 2 8 9 10
        physical 360: cores 0 1 2 8 9 10
        physical 361: cores 0 1 2 8 9 10
        physical 368: cores 0 1 2 8 9 10
        physical 369: cores 0 1 2 8 9 10
        physical 376: cores 0 1 2 8 9 10
        physical 377: cores 0 1 2 8 9 10
        physical 384: cores 0 1 2 8 9 10
        physical 385: cores 0 1 2 8 9 10
        physical 392: cores 0 1 2 8 9 10
        physical 393: cores 0 1 2 8 9 10
        physical 400: cores 0 1 2 8 9 10
        physical 401: cores 0 1 2 8 9 10
        physical 408: cores 0 1 2 8 9 10
        physical 409: cores 0 1 2 8 9 10
        physical 416: cores 0 1 2 8 9 10
        physical 417: cores 0 1 2 8 9 10
        physical 424: cores 0 1 2 8 9 10
        physical 425: cores 0 1 2 8 9 10
        physical 432: cores 0 1 2 8 9 10
        physical 433: cores 0 1 2 8 9 10
        physical 440: cores 0 1 2 8 9 10
        physical 441: cores 0 1 2 8 9 10
        physical 448: cores 0 1 2 8 9 10
        physical 449: cores 0 1 2 8 9 10
        physical 456: cores 0 1 2 8 9 10
        physical 457: cores 0 1 2 8 9 10
        physical 464: cores 0 1 2 8 9 10
        physical 465: cores 0 1 2 8 9 10
        physical 472: cores 0 1 2 8 9 10
        physical 473: cores 0 1 2 8 9 10
        physical 480: cores 0 1 2 8 9 10
        physical 481: cores 0 1 2 8 9 10
        physical 488: cores 0 1 2 8 9 10
        physical 489: cores 0 1 2 8 9 10
        physical 496: cores 0 1 2 8 9 10
        physical 497: cores 0 1 2 8 9 10
        physical 504: cores 0 1 2 8 9 10
        physical 505: cores 0 1 2 8 9 10
    cache size : 12288 KB
```

Continued on next page

Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       4972457544 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   CentOS release 5.5 (Final)

From /etc/*release* /etc/*version*
   redhat-release: CentOS release 5.5 (Final)

uname -a:
   Linux n4-1-1 2.6.32.50-1.vSMP #1 SMP Sun Dec 11 10:01:11 PST 2011 x86_64
   x86_64 x86_64 GNU/Linux

run-level 3 Dec 19 19:32 last=S

SPEC is set to: /mnt/md0/SPEC_CPU2006v1.2
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/md0        xfs    567G  2.7G  564G   1% /mnt/md0

(End of data from sysinfo program)
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc  -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

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

Continued on next page

Base Portability Flags (Continued)

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:
-xSSE4.2 -O3 -ipo -no-prec-div -static -ansi-alias

C++ benchmarks:
-xSSE4.2 -O3 -ipo -no-prec-div -static -ansi-alias

Fortran benchmarks:
-xSSE4.2 -O3 -ipo -no-prec-div -static

Benchmarks using both Fortran and C:
-xSSE4.2 -O3 -ipo -no-prec-div -static -ansi-alias

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20120329.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20120329.xml

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