SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Wipro Limited
NetPower Z2263

$SPECfp®\_rate2006 =$ 492
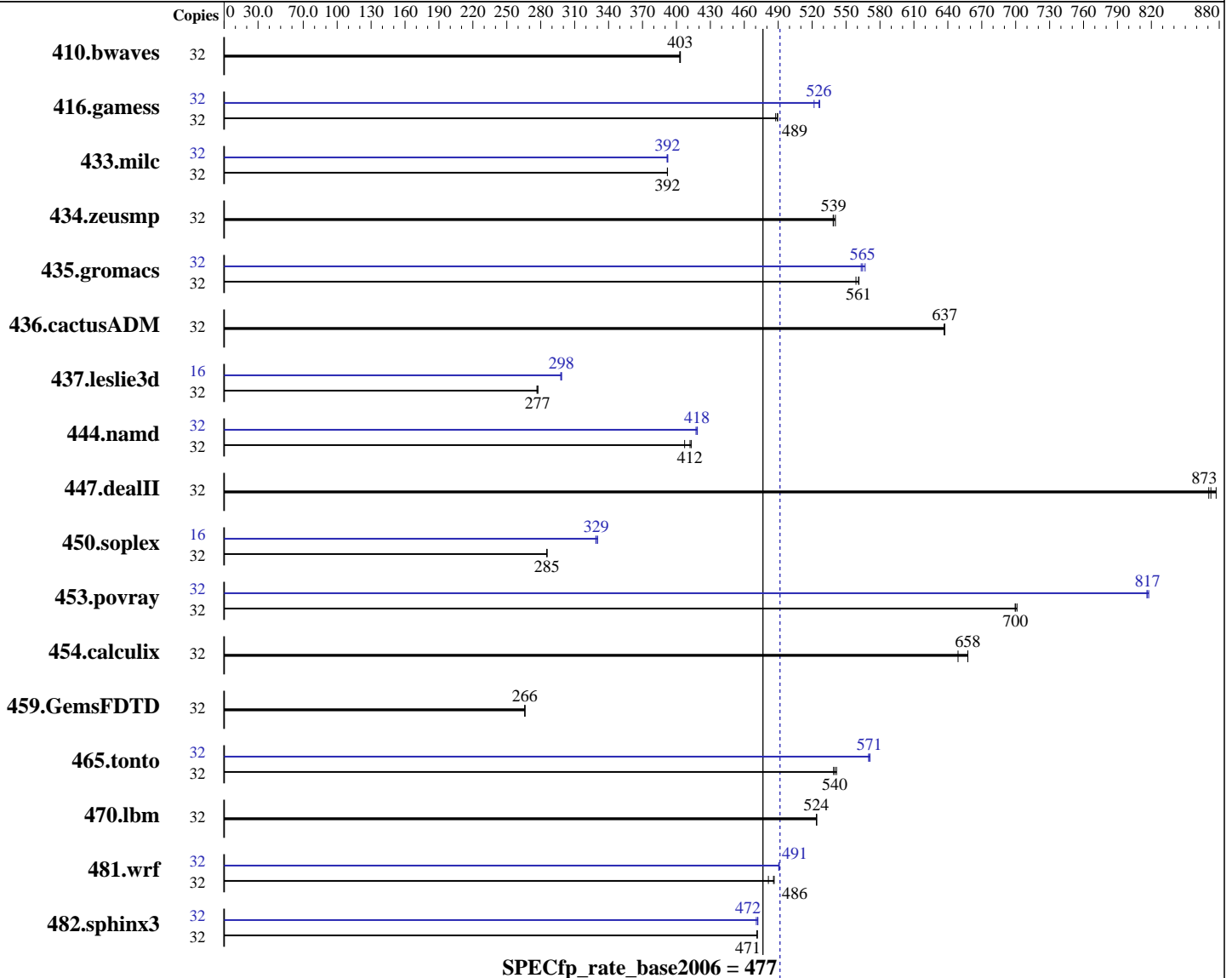
$SPECfp\_rate\_base2006 =$ 477

Benchmark	Copies	Result
410.bwaves	32	403
416.gamess	32	526
416.gamess	32	489
433.milc	32	392
433.milc	32	392
434.zeusmp	32	539
435.gromacs	32	565
435.gromacs	32	561
436.cactusADM	32	637
437.leslie3d	16	298
437.leslie3d	32	277
444.namd	32	418
444.namd	32	412
447.dealII	32	873
450.soplex	16	329
450.soplex	32	285
453.povray	32	817
453.povray	32	700
454.calculix	32	658
459.GemsFDTD	32	266
465.tonto	32	571
465.tonto	32	540
470.lbm	32	524
481.wrf	32	491
481.wrf	32	486
482.sphinx3	32	472
482.sphinx3	32	471

SPECfp_rate_base2006 = 477
SPECfp_rate2006 = 492

Hardware

CPU Name: Intel Xeon E5-2670
CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable: 2 Chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.3 (Santiago)
2.6.32-279.el6.x86_64
Compiler: C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux;
Fortran: Version 13.0.0.133 of Intel Fortran Studio XE for Linux
Auto Parallel: No
File System: ext4
Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Wipro Limited
NetPower Z2263

SPECfp_rate2006 =   492

SPECfp_rate_base2006 =   477

CPU2006 license: 937	**Test date:** Jul-2013
Test sponsor: Wipro Limited	**Hardware Availability:** Jun-2013
Tested by: Wipro Limited	**Software Availability:** Jun-2013

L3 Cache:	20 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	32/64-bit
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 X 500 GB 7.2K SATA3	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	32	1079	403	**1078**	**403**	1078	404	32	1079	403	**1078**	**403**	1078	404
416.gamess	32	**1281**	**489**	1285	488	1280	490	32	**1191**	**526**	1201	522	1190	527
433.milc	32	**749**	**392**	749	392	749	392	32	**749**	**392**	750	392	749	392
434.zeusmp	32	**540**	**539**	539	541	541	539	32	**540**	**539**	539	541	541	539
435.gromacs	32	407	561	409	559	**407**	**561**	32	406	563	**405**	**565**	403	567
436.cactusADM	32	601	637	**600**	**637**	600	637	32	601	637	**600**	**637**	600	637
437.leslie3d	32	1087	277	1084	277	**1085**	**277**	16	505	298	**504**	**298**	504	298
444.namd	32	630	407	**623**	**412**	621	413	32	**614**	**418**	613	419	615	417
447.dealII	32	**420**	**873**	417	877	420	871	32	**420**	**873**	417	877	420	871
450.soplex	32	**935**	**285**	935	285	935	286	16	**405**	**329**	404	330	406	329
453.povray	32	243	701	**243**	**700**	243	700	32	**208**	**817**	208	818	209	816
454.calculix	32	**401**	**658**	401	658	407	649	32	**401**	**658**	401	658	407	649
459.GemsFDTD	32	1276	266	1277	266	**1277**	**266**	32	1276	266	1277	266	**1277**	**266**
465.tonto	32	584	539	581	542	**583**	**540**	32	553	570	551	571	**552**	**571**
470.lbm	32	839	524	839	524	**839**	**524**	32	839	524	839	524	**839**	**524**
481.wrf	32	**736**	**486**	743	481	735	486	32	728	491	729	490	**728**	**491**
482.sphinx3	32	**1323**	**471**	1323	472	1324	471	32	1321	472	1325	471	**1322**	**472**

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Sysinfo program /root/bench/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Thu Jul 4 00:22:15 2013

Wipro Limited

NetPower Z2263

SPECfp_rate2006 =   492

SPECfp_rate_base2006 =   477

CPU2006 license: 937
Test sponsor: Wipro Limited
Tested by: Wipro Limited

Test date: Jul-2013
Hardware Availability: Jun-2013
Software Availability: Jun-2013

Platform Notes (Continued)

```
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 E5-2670 0 @ 2.60GHz
      2 "physical id"s (chips)
      32 "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 : 8
      siblings  : 16
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
   cache size : 20480 KB

From /proc/meminfo
   MemTotal:       132204288 kB
   HugePages_Total:        0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.3 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36
   EDT 2012 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jul 3 12:39 last=5

SPEC is set to: /root/bench/cpu2006
   Filesystem     Type     Size   Used Avail Use% Mounted on
   /dev/sda3      ext4     439G    45G  372G  11% /

Additional information from dmidecode:
  BIOS American Megatrends Inc. 2.0a 03/27/2013
  Memory:
   16x    8 GB
   14x Hynix Semiconducto HMT31GR7CFR4C 8 GB 1600 MHz 1 rank
   2x Hynix Semiconductor HMT31GR7CFR4C- 8 GB 1600 MHz 1 rank

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of
memory is 128 GB and the dmidecode description should have one line reading as:
   16x Hynix Semiconductor HMT31GR7CFR4C 8 GB 1600 MHz 2 rank
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Wipro Limited
NetPower Z2263

$SPECfp\_rate2006 =$ 492

$SPECfp\_rate\_base2006 =$ 477

CPU2006 license: 937		**Test date:**	Jul-2013
Test sponsor: Wipro Limited		**Hardware Availability:**	Jun-2013
Tested by: Wipro Limited		**Software Availability:**	Jun-2013

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/root/bench/cpu2006/libs/32:/root/bench/cpu2006/libs/64:/root/bench/cpu2006/sh"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 Filesystem page cache cleared with:
 echo 1>        /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

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
         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
```

SPEC CFP2006 Result

Wipro Limited
NetPower Z2263

$SPECfp\_rate2006 =$ 492

$SPECfp\_rate\_base2006 =$ 477

CPU2006 license: 937		**Test date:**	Jul-2013
Test sponsor:	Wipro Limited	**Hardware Availability:**	Jun-2013
Tested by:	Wipro Limited	**Software Availability:**	Jun-2013

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc    -m64
```

    482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
```
icpc   -m64
```

    450.soplex: `icpc -m32`

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

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

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
   437.leslie3d: -DSPEC_CPU_LP64
     444.namd: -DSPEC_CPU_LP64
    447.dealII: -DSPEC_CPU_LP64
    453.povray: -DSPEC_CPU_LP64
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Wipro Limited
NetPower Z2263

$SPECfp\_rate2006 =$ 492

$SPECfp\_rate\_base2006 =$ 477

CPU2006 license: 937		**Test date:**	Jul-2013
Test sponsor: Wipro Limited		**Hardware Availability:**	Jun-2013
Tested by: Wipro Limited		**Software Availability:**	Jun-2013

Peak Portability Flags (Continued)

```
   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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -static -auto-ilp32

      470.lbm: basepeak = yes

   482.sphinx3: -xAVX -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
               -unroll2
```

C++ benchmarks:

```
     444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -fno-alias -auto-ilp32

    447.dealII: basepeak = yes

    450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -opt-malloc-options=3

    453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
               -prof-use(pass 2) -unroll4 -ansi-alias
```

Fortran benchmarks:

```
    410.bwaves: basepeak = yes

    416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
               -inline-level=0 -scalar-rep- -static

    434.zeusmp: basepeak = yes

   437.leslie3d: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch
```

Wipro Limited
NetPower Z2263

SPECfp_rate2006 = 492

SPECfp_rate_base2006 = 477

CPU2006 license: 937
Test sponsor: Wipro Limited
Tested by: Wipro Limited

Test date: Jul-2013
Hardware Availability: Jun-2013
Software Availability: Jun-2013

Peak Optimization Flags (Continued)

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -opt-mem-layout-trans=3(pass 2)
-prof-use(pass 2) -opt-prefetch -static -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 20:37:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 March 2014.