SPEC® CFP2006 Result

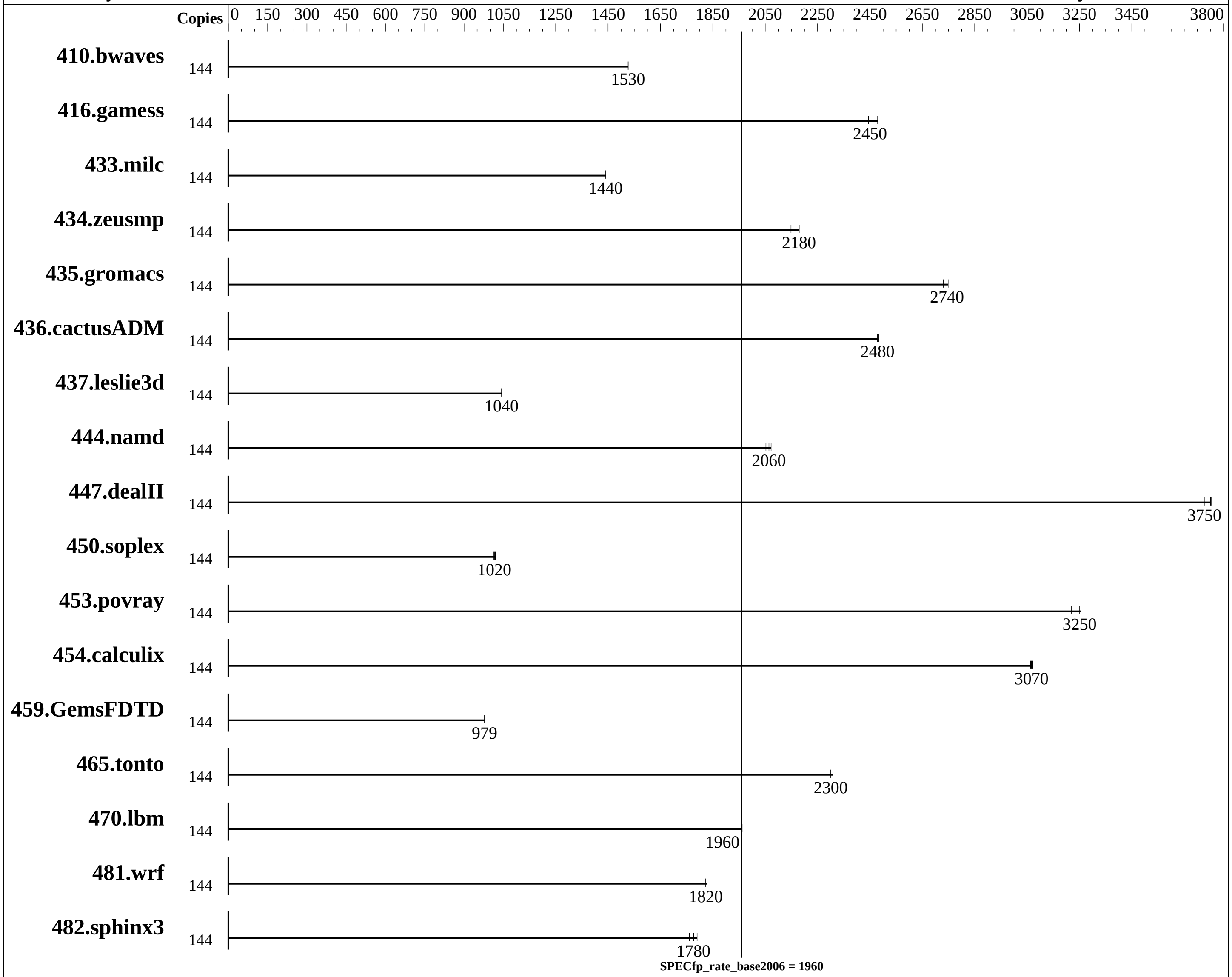
HITACHI

BladeSymphony BS2500 (Intel Xeon E7-8890 v3)

SPECfp®_rate2006 = Not Run

SPECfp_rate_base2006 = 1960

CPU2006 license:	35	**Test date:**	May-2015
Test sponsor:	HITACHI	**Hardware Availability:**	Jun-2015
Tested by:	HITACHI	**Software Availability:**	Oct-2014



Hardware

CPU Name:	Intel Xeon E7-8890 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	72 cores, 4 chips, 18 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,3,4 chip
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:	Red Hat Enterprise Linux Server release 6.6 (Santiago) 2.6.32-504.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	ext4

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L3 Cache:	45 MB I+D on chip per chip
Other Cache:	None
Memory:	1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem:	2 x 300 GB SAS, 15000 RPM, RAID1
Other Hardware:	None

System State:	Run level 5
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	none

Results Table

	Base							Peak						
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	144	1282	1530	**1282**	**1530**	1285	1520							
416.gamess	144	**1151**	**2450**	1137	2480	1153	2440							
433.milc	144	917	1440	**917**	**1440**	919	1440							
434.zeusmp	144	610	2150	601	2180	**601**	**2180**							
435.gromacs	144	374	2750	**375**	**2740**	377	2730							
436.cactusADM	144	696	2470	**694**	**2480**	693	2480							
437.leslie3d	144	1296	1040	**1297**	**1040**	1297	1040							
444.namd	144	**559**	**2060**	563	2050	557	2070							
447.dealII	144	**439**	**3750**	439	3750	442	3730							
450.soplex	144	1178	1020	1185	1010	**1182**	**1020**							
453.povray	144	**236**	**3250**	238	3220	235	3260							
454.calculix	144	**387**	**3070**	387	3070	388	3060							
459.GemsFDTD	144	1559	980	**1561**	**979**	1562	978							
465.tonto	144	**616**	**2300**	617	2300	614	2310							
470.lbm	144	1008	1960	**1010**	**1960**	1010	1960							
481.wrf	144	880	1830	**882**	**1820**	882	1820							
482.sphinx3	144	1568	1790	**1580**	**1780**	1594	1760							

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

```
BIOS configuration:
 C-State = Disable
 C1 Enhanced Mode = Disable
 Active Energy Manager = Capping Disabled
 Platform Controlled Type = Maximum Performance
 Memory Power Management = Disable
 Patrol Scrub = Disable

 Sysinfo program /home/cpu2006/config/sysinfo.rev6818
 $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
 running on localhost Wed May 13 23:40:46 2015

 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 E7-8890 v3 @ 2.50GHz
       4 "physical id"s (chips)
       144 "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 : 18
       siblings  : 36
       physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
    cache size : 46080 KB

 From /proc/meminfo
    MemTotal:       1058391176 kB
    HugePages_Total:       0
    Hugepagesize:       2048 kB

 /usr/bin/lsb_release -d
    Red Hat Enterprise Linux Server release 6.6 (Santiago)

 From /etc/*release* /etc/*version*
    redhat-release: Red Hat Enterprise Linux Server release 6.6 (Santiago)
    system-release: Red Hat Enterprise Linux Server release 6.6 (Santiago)
    system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

 uname -a:
    Linux localhost 2.6.32-504.el6.x86_64 #1 SMP Tue Sep 16 01:56:35 EDT 2014
    x86_64 x86_64 x86_64 GNU/Linux

 run-level 5 May 13 16:10

 SPEC is set to: /home/cpu2006
    Filesystem           Type  Size  Used Avail Use% Mounted on
```

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Platform Notes (Continued)

```
     /dev/mapper/vg_rhel6-lv_home
                          ext4   221G   66G  144G  32% /home

  Additional information from dmidecode:
    BIOS HITACHI 09-07 04/28/2015
    Memory:
     32x NO DIMM Unknown
     64x Samsung M393A2G40DB0-CPB 16 GB 1600 MHz 2 rank

  (End of data from sysinfo program)
```

General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 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>
 BladeSymphony BS520X, BladeSymphony BS2500 and Hitachi Compute Blade 520X are electronically equivalent.
 The results have been measured on a Hitachi Compute Blade 520X.
```

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

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Base Portability Flags (Continued)

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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.html
http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150602.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.xml
http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150602.xml

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

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