SPEC® CINT2006 Result
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Hewlett-Packard Company

ProLiant DL360e Gen8
(2.10 GHz, Intel Xeon E5-2450)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 533

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: May-2013

Hardware Availability: Jan-2013

Software Availability: Feb-2013

Benchmark	Copies	Result
400.perlbench	32	418
401.bzip2	32	292
403.gcc	32	417
429.mcf	32	723
445.gobmk	32	415
456.hmmer	32	714
458.sjeng	32	422
462.libquantum	32	3420
464.h264ref	32	708
471.omnetpp	32	296
473.astar	32	304
483.xalancbmk	32	521

SPECint_rate_base2006 = 533

Hardware

CPU Name: Intel Xeon E5-2450

CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz

CPU MHz: 2100

FPU: Integrated

CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core

CPU(s) orderable: 1,2 chips

Primary Cache: 32 KB I + 32 KB D on chip per core

Secondary Cache: 256 KB I+D on chip per core

L3 Cache: 20 MB I+D on chip per chip

Other Cache: None

Memory: 48 GB (6 x 8 GB 2Rx8 PC3-12800E-11, ECC)

Disk Subsystem: 2 x 300 GB 10 K SAS, RAID 1

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4, (Santiago) 2.6.32-358.el6.x86_64

Compiler: C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux

Auto Parallel: No

File System: ext4

System State: Run level 3 (multi-user)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V10.0 HP Array Configuration Utility, CLI version

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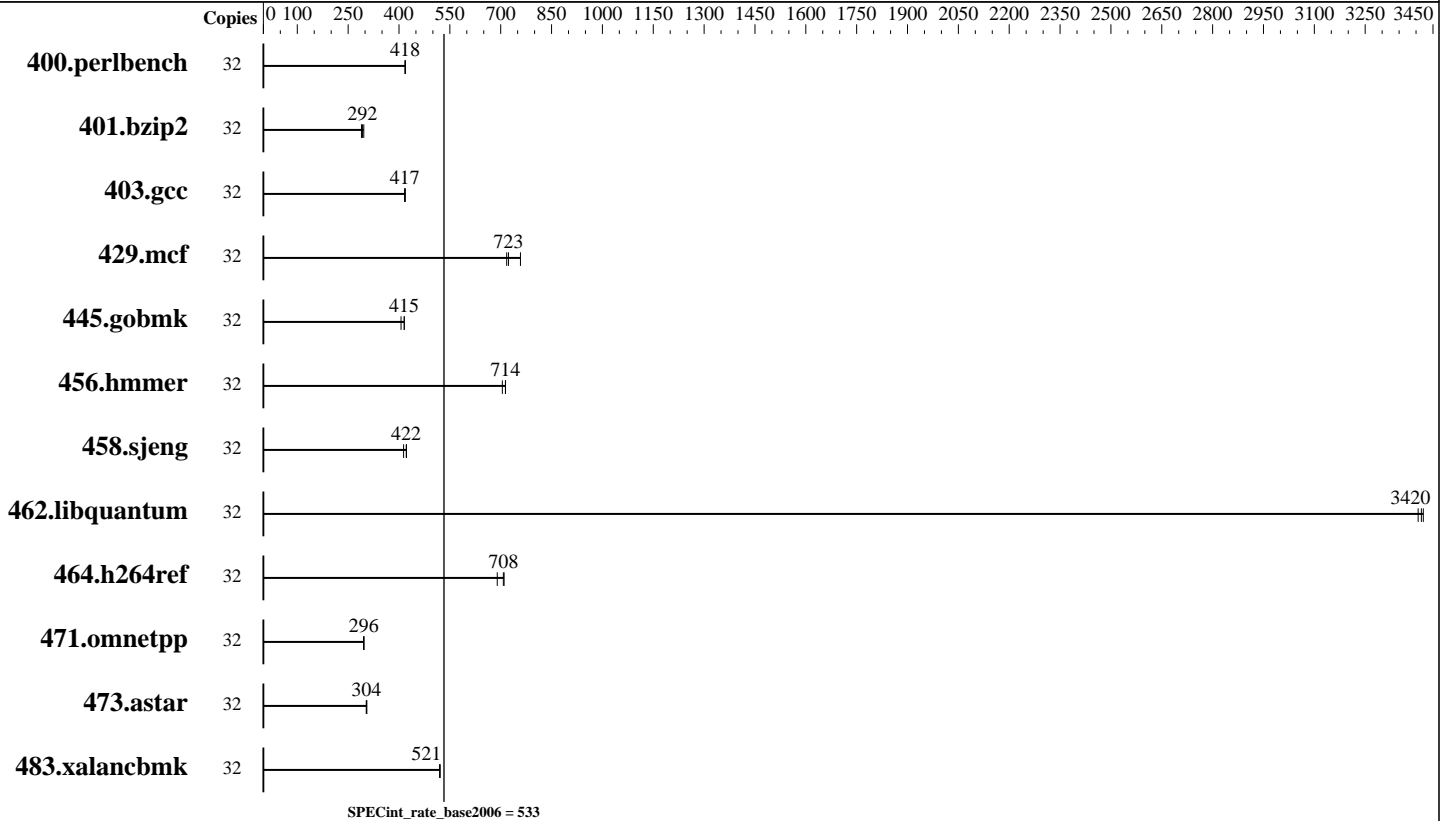|	
CPU2006 license: 3	**Test date:** May-2013
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Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	**747**	**418**	748	418	746	419							
401.bzip2	32	**1057**	**292**	1043	296	1067	289							
403.gcc	32	616	419	618	417	**617**	**417**							
429.mcf	32	385	758	**404**	**723**	407	718							
445.gobmk	32	827	406	808	416	**808**	**415**							
456.hmmer	32	**418**	**714**	418	714	424	705							
458.sjeng	32	917	422	**919**	**422**	936	414							
462.libquantum	32	195	3410	**194**	**3420**	194	3420							
464.h264ref	32	**1001**	**708**	997	710	1027	690							
471.omnetpp	32	675	296	676	296	**675**	**296**							
473.astar	32	740	304	736	305	**739**	**304**							
483.xalancbmk	32	**424**	**521**	425	520	424	521							

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"
    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/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>
    Accelerator Ratio for Reads/Writes set to = 100% Read / 0% Write
    in HP Array Configuration Utility, CLI version

Platform Notes

    BIOS Configuration:
     HP Power Profile set to Maximum Performance
     Collaborative Power Control set to Disabled
     Thermal Configuration set to Maximum Cooling
     Processor Power and Utilization Monitoring set to Disabled

    Sysinfo program /cpu2006/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191

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Platform Notes (Continued)

```
running on DL360Gen8-tlm Thu May 23 15:11:26 2013

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 E5-2450 0 @ 2.10GHz
      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:        49385380 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux DL360Gen8-tlm 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 May 23 15:09

SPEC is set to: /cpu2006
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda3      ext4    181G   50G  123G  29% /

Additional information from dmidecode:
  BIOS HP P73 12/14/2012
  Memory:
   6x HP Not Specified 8 GB 1600 MHz 2 rank
   6x UNKNOWN Not Specified

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of
memory is 48 GB and the dmidecode description should read:
   6x HP Not Specified 8 GB 1600 MHz 2 rank
```

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General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/cpu2006/libs2/32:/cpu2006/libs2/64"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
```

Base Compiler Invocation

C benchmarks:
```
    icc  -m32
```

C++ benchmarks:
```
    icpc -m32
```

Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
    462.libquantum: -DSPEC_CPU_LINUX
    483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
    -Wl,-z,muldefs -L/sh -lsmartheap
```

Base Other Flags

C benchmarks:

```
    403.gcc: -Dalloca=_alloca
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.html
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html

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You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.xml
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.

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