SPEC® CINT2006 Result

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Hewlett-Packard Company

ProLiant DL380e Gen8
(2.40 GHz, Intel Xeon E5-2430L v2)

SPECint®_rate2006 =   454

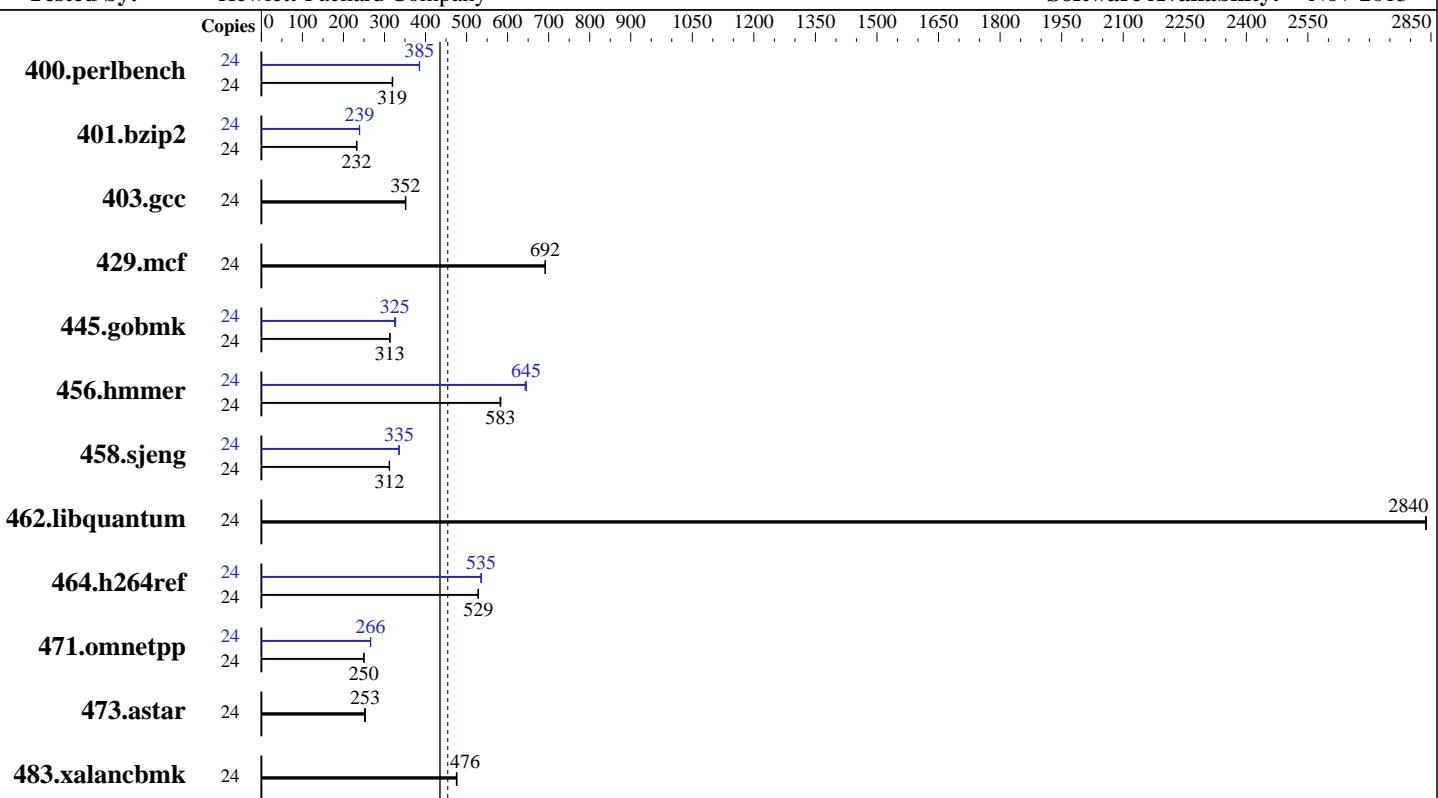SPECint_rate_base2006 = 435

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Feb-2014

Hardware Availability: Jan-2014

Software Availability: Nov-2013

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Hardware

CPU Name:	Intel Xeon E5-2430L v2
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	96 GB (12 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 300 GB 10 K SAS, RAID 0
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.5 (Santiago) Kernel 2.6.32-431.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 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

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	732	320	735	319	**735**	**319**	24	**608**	**385**	608	385	609	385
401.bzip2	24	**998**	**232**	1000	232	994	233	24	967	239	**969**	**239**	970	239
403.gcc	24	551	351	**550**	**352**	549	352	24	551	351	**550**	**352**	549	352
429.mcf	24	**316**	**692**	316	692	317	691	24	**316**	**692**	316	692	317	691
445.gobmk	24	805	313	803	314	**805**	**313**	24	**774**	**325**	769	327	775	325
456.hmmer	24	**384**	**583**	385	582	384	584	24	**347**	**645**	348	643	347	646
458.sjeng	24	930	312	**930**	**312**	933	311	24	866	336	866	335	**866**	**335**
462.libquantum	24	175	2840	**175**	**2840**	175	2840	24	175	2840	**175**	**2840**	175	2840
464.h264ref	24	**1004**	**529**	1007	527	1004	529	24	**992**	**535**	992	535	990	536
471.omnetpp	24	**601**	**250**	601	250	600	250	24	**564**	**266**	564	266	563	266
473.astar	24	671	251	**667**	**253**	665	253	24	671	251	**667**	**253**	665	253
483.xalancbmk	24	349	475	348	476	**348**	**476**	24	349	475	348	476	**348**	**476**

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/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>

Platform Notes

    BIOS Configuration:
     HP Power Profile set to Maximum Performance
     Memory Power Savings Mode set to Maximum Performance
     Thermal Configuration set to Maximum Cooling
     Collaborative Power Control set to Disabled
     Dynamic Power Capping Functionality set to Disabled
     Processor Power and Utilization Monitoring set to Disabled
     Memory Refresh Rate set to 1x

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

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Platform Notes (Continued)

```
running on DL380e-Gen8-RF0 Sat Feb 22 04:41:49 2014

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 E5-2430L v2 @ 2.40GHz
      2 "physical id"s (chips)
      24 "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  : 12
      physical 0: cores 0 1 2 3 4 5
      physical 1: cores 0 1 2 3 4 5
   cache size : 15360 KB

From /proc/meminfo
   MemTotal:        99032656 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux DL380e-Gen8-RF0 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST
   2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 22 03:35

SPEC is set to: /cpu2006
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda3       ext4  273G   16G  244G   6% /

Additional information from dmidecode:
  BIOS HP P73 11/12/2013
  Memory:
   12x HP 689911-071 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
```

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General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
```

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

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m32

    400.perlbench: icc -m64

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Peak Compiler Invocation (Continued)

        401.bzip2: `icc -m64`

        456.hmmer: `icc -m64`

        458.sjeng: `icc -m64`

    C++ benchmarks:
        `icpc -m32`

Peak Portability Flags

        400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
        401.bzip2: `-DSPEC_CPU_LP64`
        456.hmmer: `-DSPEC_CPU_LP64`
        458.sjeng: `-DSPEC_CPU_LP64`
        462.libquantum: `-DSPEC_CPU_LINUX`
        483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

        400.perlbench: `-xSSE4.2(pass 2)` `-prof-gen(pass 1)` `-ipo(pass 2)`
                `-O3(pass 2)` `-no-prec-div(pass 2)` `-prof-use(pass 2)`
                `-auto-ilp32`

        401.bzip2: `-xSSE4.2(pass 2)` `-prof-gen(pass 1)` `-ipo(pass 2)`
                `-O3(pass 2)` `-no-prec-div(pass 2)` `-prof-use(pass 2)`
                `-opt-prefetch -auto-ilp32 -ansi-alias`

        403.gcc: `basepeak = yes`

        429.mcf: `basepeak = yes`

        445.gobmk: `-xSSE4.2(pass 2)` `-prof-gen(pass 1)` `-prof-use(pass 2)`
                `-ansi-alias -opt-mem-layout-trans=3`

        456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

        458.sjeng: `-xSSE4.2(pass 2)` `-prof-gen(pass 1)` `-ipo(pass 2)`
                `-O3(pass 2)` `-no-prec-div(pass 2)` `-prof-use(pass 2)`
                `-unroll4 -auto-ilp32`

        462.libquantum: `basepeak = yes`

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Peak Optimization Flags (Continued)

464.h264ref: `-xSSE4.2(pass 2)` `-prof-gen(pass 1)` `-ipo(pass 2)`
`-O3(pass 2)` `-no-prec-div(pass 2)` `-prof-use(pass 2)`
`-unroll2` `-ansi-alias`

C++ benchmarks:

471.omnetpp: `-xSSE4.2(pass 2)` `-prof-gen(pass 1)` `-ipo(pass 2)`
`-O3(pass 2)` `-no-prec-div(pass 2)` `-prof-use(pass 2)`
`-ansi-alias` `-opt-ra-region-strategy=block` `-Wl,-z,muldefs`
`-L/sh` `-lsmartheap`

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak 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/Intel-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.20131009.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-revB.20131009.xml

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

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