Hewlett-Packard Company
ProLiant DL380p Gen8
(1.80 GHz, Intel Xeon E5-2603 v2)

SPEClnt_rate2006 = 186
SPEClnt_rate_base2006 = 179

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Oct-2013
Hardware Availability: Sep-2013
Software Availability: Sep-2013

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CPU Name: Intel Xeon E5-2603 v2
CPU Characteristics:
CPU MHz: 1800
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
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: 10 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem: 1 x 400 GB SAS SSD, RAID 0
Other Hardware: None

Operating System: Red Hat Enterprise Linux Server release 6.4
Kernel 2.6.32-358.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
Hewlett-Packard Company

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SPECint_rate2006 = 186
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Results Table

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<th>Copies</th>
<th>Base</th>
<th>Peak</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Seconds</td>
<td>Ratio</td>
<td>Seconds</td>
</tr>
<tr>
<td>400.perlbench</td>
<td>8</td>
<td>620</td>
<td>126</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>8</td>
<td>859</td>
<td>89.9</td>
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<tr>
<td>403.gcc</td>
<td>8</td>
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<tr>
<td>429.mcf</td>
<td>8</td>
<td>235</td>
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</tr>
<tr>
<td>445.gobmk</td>
<td>8</td>
<td>766</td>
<td>110</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>8</td>
<td>327</td>
<td>229</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>8</td>
<td>800</td>
<td>121</td>
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<td>462.libquantum</td>
<td>8</td>
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<td>1200</td>
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<td>464.h264ref</td>
<td>8</td>
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<tr>
<td>471.omnetpp</td>
<td>8</td>
<td>448</td>
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<tr>
<td>473.astar</td>
<td>8</td>
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<td>104</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>8</td>
<td>253</td>
<td>218</td>
</tr>
</tbody>
</table>

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

runcspec command invoked through numactl i.e.:
  numactl --interleave=all runcspec <etc>

Used "stop-services" script before the run

Platform Notes

BIOS Configuration:
  HP Power Profile set to Maximum Performance
  Energy/Performance Bias is 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

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<table>
<thead>
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<th>3</th>
<th>Test date:</th>
<th>Oct-2013</th>
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<tr>
<td>Test sponsor:</td>
<td>Hewlett-Packard Company</td>
<td>Hardware Availability:</td>
<td>Sep-2013</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Hewlett-Packard Company</td>
<td>Software Availability:</td>
<td>Sep-2013</td>
</tr>
</tbody>
</table>

Platform Notes (Continued)

Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on DL380p-Gen8-0S9 Sun Oct 27 20:28:02 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 E5-2603 v2 @ 1.80GHz
  2 "physical id"s (chips)
  8 "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 : 4
    siblings : 4
    physical 0: cores 0 1 2 3
    physical 1: cores 0 1 2 3
    cache size : 10240 KB

From /proc/meminfo
  MemTotal:       132119284 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)

  uname -a:
    Linux DL380p-Gen8-0S9 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 Oct 25 21:44

  SPEC is set to: /cpu2006
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/sda3      ext4  365G  27G  320G  8% /

  Additional information from dmidecode:
    BIOS HP P70 09/08/2013
    Memory:
      16x HP 689911-071 8 GB 1333 MHz 2 rank
      8x UNKNOWN NOT AVAILABLE

  (End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of
SPEC CINT2006 Result

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Platform Notes (Continued)
memory is 128 GB and the dmidecode description should have one line reading as:
16x HP 689911-071 8 GB 1333 MHz 2 rank

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
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Peak Compiler Invocation

C benchmarks (except as noted below):
  icc -m32
  400.perlbench: icc -m64
  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

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
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.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.xml

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

Tested with SPEC CPU2006 v1.2.