Hewlett-Packard Company

ProLiant DL380p Gen8
(2.30 GHz, Intel Xeon E5-2630)

SPECint\_rate2006 = 430
SPECint\_rate\_base2006 = 414

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

SPECint\_rate2006 = 430
SPECint\_rate\_base2006 = 414

CPU Name: Intel Xeon E5-2630
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2300
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: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem: 2 x 146 GB 15 K SAS, RAID 1
Other Hardware: None

Operating System: Red Hat Enterprise Linux Server release 6.2, Kernel 2.6.32-220.el6.x86_64
Compiler: C/C++: Version 12.1.2.273 of Intel Compiler XE
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 V9.01
HP Array Configuration Utility, CLI version

Software
Hewlett-Packard Company

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<table>
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<tr>
<th>Benchmark</th>
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<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>24</td>
<td>765</td>
<td>307</td>
<td>765</td>
<td>306</td>
<td>764</td>
<td>307</td>
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<tr>
<td>401.bzip2</td>
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<td>1026</td>
<td>226</td>
<td>1029</td>
<td>225</td>
<td><strong>1028</strong></td>
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<td>403.gcc</td>
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<td><strong>581</strong></td>
<td><strong>332</strong></td>
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<td><strong>582</strong></td>
<td>332</td>
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<td>429.mcf</td>
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<td><strong>332</strong></td>
<td><strong>660</strong></td>
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<td>658</td>
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<tr>
<td>445.gobmk</td>
<td>24</td>
<td><strong>805</strong></td>
<td><strong>313</strong></td>
<td>805</td>
<td>313</td>
<td><strong>805</strong></td>
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<tr>
<td>456.hmmer</td>
<td>24</td>
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<td>515</td>
<td><strong>434</strong></td>
<td><strong>516</strong></td>
<td>433</td>
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<td>458.sjeng</td>
<td>24</td>
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<td>303</td>
<td><strong>939</strong></td>
<td><strong>309</strong></td>
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<tr>
<td>462.libquantum</td>
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<td><strong>201</strong></td>
<td><strong>2470</strong></td>
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<td>464.h264ref</td>
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<td>521</td>
<td>1034</td>
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<td><strong>1024</strong></td>
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<td>471.omnetpp</td>
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<td>473.astar</td>
<td>24</td>
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<td>675</td>
<td>250</td>
<td><strong>672</strong></td>
<td><strong>251</strong></td>
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<tr>
<td>483.xalancbmk</td>
<td>24</td>
<td>395</td>
<td>420</td>
<td>397</td>
<td>417</td>
<td><strong>397</strong></td>
<td><strong>417</strong></td>
</tr>
</tbody>
</table>

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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>

Platform Notes

BIOS Configuration:
HP Power Profile set to Custom
Energy/Performance Bias is set to Maximum Performance
Thermal Configuration set to Maximum Cooling
Collaborative Power Control set to Disabled
Processor Power and Utilization Monitoring set to Disabled
Drive Write Cache set to Enabled in HP Array Configuration Utility, CLI version
Accelerator Ratio for Reads/Writes set to = 100% Read / 0% Write in HP Array Configuration Utility, CLI version
Sysinfo program /cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdf5032aaa42e583f96b07f99d3
running on DL380G8-2 Thu May 3 09:11:12 2012

Continued on next page
## 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`

```plaintext
model name : Intel(R) Xeon(R) CPU E5-2630 0 @ 2.30GHz
  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`

```plaintext
MemTotal:       13212004 kB
HugePages_Total:       0
Hugepagesize:       2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)
```

From `/etc/*release* /etc/*version*`

```plaintext
redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
```

```
uname -a:
Linux DL380G8-2 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 May 2 10:10 last=5
```

```
SPEC is set to: /cpu2006
```

```
Filesystem    Type     Size  Used Avail Use% Mounted on
/dev/mapper/vg_rh62-lv_root ext4    50G   15G   32G  33% /
```

Additional information from dmidecode:

BIOS HP P70 02/21/2012
Memory:
16x Not Specified Not Specified 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
SPEC CINT2006 Result

Hewlett-Packard Company
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CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Test date: May-2012
Tested by: Hewlett-Packard Company
Hardware Availability: Jun-2012
Software Availability: Mar-2012

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/spec/libs2/32 -lsmartheap

Base Other Flags

C benchmarks:
  403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

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Hewlett-Packard Company

ProLiant DL380p Gen8
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SPECint\_rate\_base2006 = 414

Peak Compiler Invocation (Continued)

\begin{verbatim}
400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64
\end{verbatim}

C++ benchmarks:
\begin{verbatim}
icpc -m32
\end{verbatim}

Peak Portability Flags

\begin{verbatim}
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
\end{verbatim}

Peak Optimization Flags

C benchmarks:

\begin{verbatim}
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
\end{verbatim}
SPEC CINT2006 Result

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Test date: May-2012
Hardware Availability: Jun-2012
Software Availability: Mar-2012

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2 (pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L:/spec/libs2/32 -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-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120829.xml

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

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