SPEC® CFP2006 Result

Hewlett-Packard Company
ProLiant DL380 G7
(2.27 GHz, Intel Xeon E5607)

<table>
<thead>
<tr>
<th>CPU2006 license: 3</th>
<th>SPECfp_rate2006 = NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor: Hewlett-Packard Company</td>
<td>SPECfp_rate_base2006 = NC</td>
</tr>
<tr>
<td>Tested by: Hewlett-Packard Company</td>
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<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name: Intel Xeon E5607</td>
<td>Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64</td>
</tr>
<tr>
<td>CPU MHz: 2267</td>
<td>Version 12.0.1.116 Build 20101116</td>
</tr>
<tr>
<td>FPU: Integrated</td>
<td>Auto Parallel: No</td>
</tr>
<tr>
<td>CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip</td>
<td>File System: ext3</td>
</tr>
<tr>
<td>CPU(s) orderable: 1,2 chips</td>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td>Secondary Cache: 256 KB I+D on chip per core</td>
<td>Peak Pointers: 32/64-bit</td>
</tr>
<tr>
<td>L3 Cache: 8 MB I+D on chip per chip</td>
<td>Other Software: None</td>
</tr>
<tr>
<td>Other Cache: None</td>
<td></td>
</tr>
<tr>
<td>Memory: 96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz)</td>
<td></td>
</tr>
<tr>
<td>Disk Subsystem: 1 x 300 GB 10 K SAS</td>
<td></td>
</tr>
<tr>
<td>Other Hardware: None</td>
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</tr>
</tbody>
</table>

Non-Compliant
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Results Table

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<thead>
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</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used. numactl was used to bind copies to the cores.
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Operating System Notes

'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
echo 3600 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

BIOS configuration:
HP Power Profile set to Maximum Performance
Thermal Configuration set to Increased Cooling
Data Reuse set to Disabled

General Notes

Binaries were compiled on RHEL5.5

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64
SPEC CFP2006 Result

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SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

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

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Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
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 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
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
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

Non-Compliant

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Peak Compiler Invocation

C benchmarks (except as noted below):
   icc  -m64
   482.sphinx3: icc  -m32

C++ benchmarks (except as noted below):
   icpc  -m64
   450.soplex: icpc  -m32

Fortran benchmarks:
   ifort  -m64

Benchmarks using both Fortran and C:
   icc  -m64 ifort  -m64

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
413.games: -DSPEC_CPU_LP64
421.milc: -DSPEC_CPU_LP64
434.zeno: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
453.milc: -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
SPEC CFP2006 Result

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(2.27 GHz, Intel Xeon E5607)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company
Test date: Feb-2011
Hardware Availability: Feb-2011
Software Availability: Dec-2010

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Peak Optimization Flags

C benchmarks:
433.milc: -xSSE4.2 -prof-gen -ipo -O3 -no-prec-div -prof-use -static -auto-ilp32
470.lbm: -xSSE4.2 -prof-gen -ipo -O3 -no-prec-div -prof-use -opt-malloc-options=3
-ansi-alias -st-prefetch -static -auto-ilp32
482.sphinx3: -xSSE4.2 -ipo -no-prec-div -unroll2

C++ benchmarks:
444.namd: -xSSE4.2 -prof-gen -ipo -O3 -auto-ilp32
447.dealII: basepeak = yes
450.soplex: -xSSE4.2 -prof-gen -ipo -O3 -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
453.povray: -xSSE4.2 -prof-gen -ipo -O3 -unroll4
-ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:
410.bwaves: basepeak = yes
416.gamess: -xSSE4.2 -prof-gen -ipo -O3
-inline-level=0 -scalar-rep -static
434.zeusmp: basepeak = yes

Continued on next page
**SPEC CFP2006 Result**

**Hewlett-Packard Company**

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**Peak Optimization Flags (Continued)**

- **437.leslie3d**: `-XSSE4.2 -ipo -O3 -no-prec-div`  
  `-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`  

- **459.GemsFDTD**: `basepeak = yes`  
  `-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

- **465.tonto**: `-XSSE4.2(pass 2) -prof-gen(pass 2) -ipo(pass 2) -O3(pass 2)`  
  `-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto`  
  `-inline-callo -opt-malloc-options=3`

- **Benchmarks using both Fortran and C:**
  - **435.gromacs**: `basepeak = yes`
  - **436.cactusADM**: `basepeak = yes`
  - **454.calculix**: `basepeak = yes`
  - **481.wrf**: `basepeak = yes`

The flags files that were used to format this result can be browsed at:


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

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