### SPEC® CFP2006 Result

**Hewlett-Packard Company**

HP Integrity rx2620  
(1.4GHz/12MB Dual-Core Intel Itanium 2)

**SPECfp®_rate2006 = 35.3**  
**SPECfp_rate_base2006 = 34.1**

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name: Dual-Core Intel Itanium 2 9015</td>
<td>Operating System: HPUX11i-TCOE B.11.23.0609</td>
</tr>
<tr>
<td>CPU Characteristics: 1.4GHz/12MB, 400MHz FSB</td>
<td>Compiler: HP C/aC++ Developer's Bundle C.11.23.12</td>
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<tr>
<td>CPU MHz: 1400</td>
<td>HP Fortran90 Compiler B.11.23.32</td>
</tr>
<tr>
<td>FPU: Integrated</td>
<td>Auto Parallel: No</td>
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<tr>
<td>CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip</td>
<td>File System: vxfs</td>
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<tr>
<td>CPU(s) orderable: 1-2 chips</td>
<td>System State: Multi-user</td>
</tr>
<tr>
<td>Primary Cache: 16 KB I + 16 KB D on chip per core</td>
<td>Base Pointers: 32-bit</td>
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<tr>
<td>Secondary Cache: 1 MB I + 256 KB D on chip per core</td>
<td>Peak Pointers: 32-bit</td>
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<td>Other Software: None</td>
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|Copies| Copies|  | Copies| Copies|  | Copies| Copies|  | Copies| Copies|  | Copies| Copies|  | Copies| Copies|  |
|-----|-----|  | -----|-----|  | -----|-----|  | -----|-----|  | -----|-----|  | -----|-----|  |
| 410.bwaves | 416.gamess | 433.milc | 434.zeusmp |
| 435.gromacs | 436.cactusADM | 437.leslie3d | 444.namd |
| 447.dealII | 450.soplex | 453.povray | 454.calculix |
| 459.GemsFDTD | 465.tonto | 470.lbm | 481.wrf |
| 482.sphinx3 |  |  |  |

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### Results Table

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</table>

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

### Operating System Notes

The system had the September 2006 HP-UX 11i v2 Technical Computing Operating Environment (TCOE) and compilers installed, along with the following patches:

- PHSS_34858  linker + fdp cumulative patch
- PHSS_34853  Math Library Cumulative Patch
- PHSS_34854  Integrity Unwind Library
- PHSS_34855  HP C Compiler (A.06.12)
- PHSS_34856  aC++ Compiler (A.06.12)
- PHSS_34857  u2comp/be/plugin library patch
- PHSS_34859  FORTRAN I/O Library [libIO77]
- PHSS_34859  FORTRAN Intrinsics [libF90 B.11.23.17]
- PHSS_34859  Fortran Product Patch, v3.1 to v3.1.1
- PHKL_34020  Perfmon enhancements and Itanium Dual-Core

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Hewlett-Packard Company
HP Integrity rx2620
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SPECfp_rate2006 = 35.3
SPECfp_rate_base2006 = 34.1

CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Operating System Notes (Continued)

The following kernel tunables were set, in addition to the defaults set by the Technical Computing OE:

dbc_max_pct=20
dbc_min_pct=20
maxdsiz=3221225472
maxssiz=401604608

Base Compiler Invocation

C benchmarks:
/opt/ansic/bin/cc -Ae

C++ benchmarks:
/opt/aCC/bin/aCC -Aa

Fortran benchmarks:
/opt/fortran90/bin/f90

Benchmarks using both Fortran and C:
/opt/ansic/bin/cc -Ae /opt/fortran90/bin/f90

Base Portability Flags

453.povray: -DSPEC_CPU_NEED_INVHYP
454.calculix: -DSPEC_CPU_NOZMODIFIER
481.wrf: -DNOUNDERSCORE +noppu

Base Optimization Flags

C benchmarks:
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N

C++ benchmarks:
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N

Fortran benchmarks:
+Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N

Benchmarks using both Fortran and C:
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N
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HP Integrity rx2620
(1.4GHz/12MB Dual-Core Intel Itanium 2)

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CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company
Test date: Oct-2006
Hardware Availability: Sep-2006
Software Availability: Sep-2006

Peak Compiler Invocation

C benchmarks:
/opt/ansic/bin/cc -Ae

C++ benchmarks:
/opt/aCC/bin/aCC -Aa

Fortran benchmarks:
/opt/fortran90/bin/f90

Benchmarks using both Fortran and C:
/opt/ansic/bin/cc -Ae /opt/fortran90/bin/f90

Peak Portability Flags

453.povray: -DSPEC_CPU_NEED_INVHYP
454.calculix: -DSPEC_CPU_NOZMODIFIER
481.wrf: -DNOUNDERSCORE +noppu

Peak Optimization Flags

C benchmarks:
433.milc: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster
 +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M
 -Wl,+pi,64M +Onoparmsoverlap -Wl,-N
470.lbm: basepeak = yes
482.sphinx3: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster
 +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M
 -Wl,+pi,64M +Onoparmsoverlap

C++ benchmarks:
444.namd: basepeak = yes
447.dealII: basepeak = yes
450.soplex: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster
 +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M
 -Wl,+pi,64M +Onoparmsoverlap -Wl,-N
453.povray: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster
 +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M
 -Wl,+pi,64M

Continued on next page
Hewlett-Packard Company

HP Integrity rx2620
(1.4GHz/12MB Dual-Core Intel Itanium 2)

SPECfp_rate2006 = 35.3
SPECfp_rate_base2006 = 34.1

CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Oct-2006
Hardware Availability: Sep-2006
Software Availability: Sep-2006

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.games: +Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+p1,64M +Odataprefetch=direct -Wl,-N

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+p1,64M +Odataprefetch=direct -Wl,-N

465.tonto: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+p1,64M +Odataprefetch=direct

Benchmarks using both Fortran and C:

435.gromacs: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+p1,64M +Onoparmsoverlap

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.11.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.11.xml

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For other inquiries, please contact webmaster@spec.org.

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