Hewlett-Packard Company

HP Integrity BL860c
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp\textsuperscript{\textregistered}\_rate\textsubscript{2006} = 48.8
SPECfp\textsubscript{rate}\_base\textsubscript{2006} = 46.9

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CPU\textsubscript{2006} license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2007
Hardware Availability: Feb-2007
Software Availability: Feb-2007

Hardware

CPU Name: Dual-Core Intel Itanium 2 9040
CPU Characteristics: 1.6GHz/18MB, 533MHz FSB
CPU MHz: 1600
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1-2 chips
Primary Cache: 16 KB I + 16 KB D on chip per core
Secondary Cache: 1 MB I + 256 KB D on chip per core

Software

Operating System: HP/UX11i-TCOE B.11.23.0609
Compiler: HP C/aC++ Developer's Bundle C.11.23.12
HP Fortran90 Compiler B.11.23.32
Auto Parallel: No
File System: vxfs
System State: Multi-user
Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: None
Hewlett-Packard Company

HP Integrity BL860c (1.6GHz/18MB Dual-Core Intel Itanium 2)

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

SPECfp_rate2006 = 48.8
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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 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_34395 FORTRAN I/O Library [libIO77]
- PHSS_34397 FORTRAN Intrinsics [libF90 B.11.23.17]
- PHSS_34399 Fortran Product Patch, v3.1 to v3.1.1
- PHKL_34020 Perfmon enhancements and Itanium Dual-Core

Continued on next page
Hewlett-Packard Company  

HP Integrity BL860c  
(1.6GHz/18MB Dual-Core Intel Itanium 2)  

SPECfp_rate2006 = 48.8  
SPECfp_rate_base2006 = 46.9  

CPU2006 license: 03  
Test sponsor: Hewlett-Packard Company  
Tested by: Hewlett-Packard Company  
Test date: Jan-2007  
Hardware Availability: Feb-2007  
Software Availability: Feb-2007  

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
SPEC CFP2006 Result

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HP Integrity BL860c
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SPECfp_rate_base2006 = 46.9

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

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

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Hewlett-Packard Company

HP Integrity BL860c
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECfp_rate2006 = 48.8
SPECfp_rate_base2006 = 46.9

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes
416.gamess: +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.20090715.07.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.07.xml