**SPEC® CINT2006 Result**

**Hewlett-Packard Company**

HP Integrity rx4640 (1.6GHz/24MB Dual-Core Intel Itanium 2)

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

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**Hardware**

- **CPU Name:** Dual-Core Intel Itanium 2 9050  
- **CPU Characteristics:** 1.6GHz/24MB, 400MHz FSB  
- **CPU MHz:** 1600  
- **FPU:** Integrated  
- **CPU(s) enabled:** 8 cores, 4 chips, 2 cores/chip  
- **CPU(s) orderable:** 1-4 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  
- **L3 Cache:** 12 MB I+D on chip per core  
- **Other Cache:** None  
- **Memory:** 32 GB (16x2GB DIMMs)  
- **Disk Subsystem:** 36GB 15K RPM SCSI  
- **Other Hardware:** None

**Software**

- **Operating System:** HP/UX11i-TCOE B.11.23.0609  
- **Compiler:** HP C/C++ Developer's Bundle C.11.23.12  
- **Auto Parallel:** No  
- **File System:** vxfs  
- **System State:** Multi-user  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32-bit  
- **Other Software:** MicroQuill Smartheap 8.0

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Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
Hewlett-Packard Company

HP Integrity rx4640 (1.6GHz/24MB Dual-Core Intel Itanium 2)

SPEC CINT2006 Result

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SPECint_rate2006 = 93.6
SPECint_rate_base2006 = 87.2

Hewlett-Packard Company

Intel Itanium 2)

CPU2006 license: 03
Test date: Sep-2006
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Software Availability: Sep-2006

Results Table

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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 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_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

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
Hewlett-Packard Company

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SPECint_rate_base2006 = 87.2

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Base Compiler Invocation

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

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

Base Portability Flags

400.perlbench: -DSPEC_CPU_HPUX_IA64
403.gcc: -DSPEC_CPU_HPUX
462.libquantum: -DSPEC_CPU_HPUX
483.xalancbmk: -DSPEC_CPU_HPUX_IA64

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
/usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a

Peak Compiler Invocation

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

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

Peak Portability Flags

400.perlbench: -DSPEC_CPU_HPUX_IA64
403.gcc: -DSPEC_CPU_HPUX
462.libquantum: -DSPEC_CPU_HPUX
483.xalancbmk: -DSPEC_CPU_HPUX_IA64
Hewlett-Packard Company

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Peak Optimization Flags

C benchmarks:

400.perlbench: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M -Wl,-N

401.bzip2: Same as 400.perlbench

403.gcc: Same as 400.perlbench

429.mcf: Same as 400.perlbench

445.gobmk: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Odaptprefetch=direct

456.hmmer: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M

458.sjeng: Same as 445.gobmk

462.libquantum: Same as 456.hmmer

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M
/usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a

473.astar: +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap
/usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a

483.xalancbmk: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2)
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap
/usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.06.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.06.xml
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