Hewlett-Packard Company

**HP Integrity rx3600 (1.66GHz/18MB Dual-Core Intel Itanium)**

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>SPECint_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.8</td>
<td>15.6</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 03  
**Test date:** Sep-2007  
**Hardware Availability:** Nov-2007  
**Test sponsor:** Hewlett-Packard Company

<table>
<thead>
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<th>Benchmark</th>
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<tr>
<td>400.perlbench</td>
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<td>401.bzip2</td>
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<td>403.gcc</td>
<td>12.6</td>
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<td>429.mcf</td>
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<td>445.gobmk</td>
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<tr>
<td>456.hmmer</td>
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<td>12.3</td>
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<td>462.libquantum</td>
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<td>464.h264ref</td>
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<td>471.omnetpp</td>
<td>15.6</td>
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<td>473.astar</td>
<td>15.4</td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>15.1</td>
<td></td>
</tr>
</tbody>
</table>

**Software**

- **Operating System:** HP-UX11i-MCOE B.11.31 (LR)
- **Compiler:** HP C/C++ Developer's Bundle C.11.31.03  
  HP Fortran90 Compiler B.11.31.03
- **Auto Parallel:** No
- **File System:** vxfs
- **System State:** Multi-user
- **Base Pointers:** 32-bit
- **Peak Pointers:** 32-bit
- **Other Software:** MicroQuill Smartheap 8.1

**Hardware**

- **CPU Name:** Dual-Core Intel Itanium 9140M
- **CPU Characteristics:** 1.66GHz/18MB, 667MHz FSB
- **CPU MHZ:** 1666
- **FPU:** Integrated
- **CPU(s) enabled:** 2 cores, 1 chip, 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
- **L3 Cache:** 9 MB I+D on chip per core
- **Other Cache:** None
- **Memory:** 16 GB (8x2GB DIMMs, AD124A 8-DIMM memory carrier)
- **Disk Subsystem:** 73GB 10K RPM SAS
- **Other Hardware:** None

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Hewlett-Packard Company

HP Integrity rx3600 (1.66GHz/18MB Dual-Core Intel Itanium)
# SPEC CINT2006 Result

## Hewlett-Packard Company

HP Integrity rx3600 (1.66GHz/18MB Dual-Core Intel Itanium)

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
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<tbody>
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<tr>
<td>Tested by:</td>
<td>Hewlett-Packard Company</td>
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| SPECint2006 = | 16.8 |
| SPECint_base2006 = | 15.6 |

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Seconds</th>
<th>Ratio</th>
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<td>16.5</td>
</tr>
</tbody>
</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 2007 HP-UX 11i v3 Mission Critical Operating Environment (MCOE) and compilers installed, along with the following patches:

- PHSS_36349  linker + fdp cumulative patch
- PHSS_36351  Math Library Cumulative Patch
- PHSS_36352  Integrity Unwind Library
- PHSS_36350  aC++ Runtime (A.06.15)
- PHSS_36354  assembler patch

The following kernel tunables were set, in addition to the defaults set by the Mission Critical OE:

- maxdsiz=3221225472
- maxssiz=401604608
- maxrsessiz=41943040

### Platform Notes

The "cpuconfig" EFI command was used prior to booting to deconfigure processors.

Although two cores were enabled during testing, the SPEC CPU2006 benchmarks used only one core.

The setboot command was used to disable hyperthreading.
**SPEC CINT2006 Result**

**Hewlett-Packard Company**

**HP Integrity rx3600 (1.66GHz/18MB Dual-Core Intel Itanium)**

**SPECint2006 =** 16.8  
**SPECint_base2006 =** 15.6

CPU2006 license: 03  
Test sponsor: Hewlett-Packard Company  
Test date: Sep-2007

Tested by: Hewlett-Packard Company  
Hardware Availability: Nov-2007  
Software Availability: Sep-2007

---

**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
```

---

**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 +Odataprefetch=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
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmartheap.a

473.astar: +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/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
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmartheap.a

The flags file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.xml
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For other inquiries, please contact webmaster@spec.org.

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