Hewlett-Packard Company
HP Integrity Superdome
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECint®_rate2006 = 797
SPECint_rate_base2006 = 744

Hardware

CPU Name: Dual-Core Intel Itanium 2 9040
CPU Characteristics: 1.6GHz/18MB, 533MHz FSB
CPU MHz: 1600
FPU: Integrated
CPU(s) enabled: 64 cores, 32 chips, 2 cores/chip
CPU(s) orderable: 1-64 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: None
Other Cache: None
Memory: 256 GB (256x1GB DIMMs)
Disk Subsystem: 3x73GB 15K RPM SCSI (striped)

Software

Operating System: HPUX11i-TCOE B.11.23.0609
Compiler: HP C/aC++ 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
**SPEC CINT2006 Result**

**Hewlett-Packard Company**

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

**SPECint_rate2006 =** 797  
**SPECint_rate_base2006 =** 744

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

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>64</td>
<td>1041</td>
<td>601</td>
<td>1051</td>
<td>595</td>
<td>1040</td>
<td>601</td>
<td>64</td>
<td>867</td>
<td>721</td>
<td>877</td>
<td>713</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>64</td>
<td>1024</td>
<td>603</td>
<td><strong>1016</strong></td>
<td><strong>608</strong></td>
<td>1015</td>
<td>609</td>
<td>64</td>
<td><strong>990</strong></td>
<td><strong>624</strong></td>
<td>1006</td>
<td>614</td>
</tr>
<tr>
<td>403.mcf</td>
<td>64</td>
<td>973</td>
<td>530</td>
<td>973</td>
<td>530</td>
<td>975</td>
<td>528</td>
<td>64</td>
<td>938</td>
<td>549</td>
<td><strong>940</strong></td>
<td><strong>548</strong></td>
</tr>
<tr>
<td>429.mcf</td>
<td>64</td>
<td>720</td>
<td>811</td>
<td><strong>724</strong></td>
<td><strong>806</strong></td>
<td>725</td>
<td>805</td>
<td>64</td>
<td>702</td>
<td>832</td>
<td>710</td>
<td>823</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>64</td>
<td>946</td>
<td>709</td>
<td>945</td>
<td>711</td>
<td>947</td>
<td>709</td>
<td>64</td>
<td>762</td>
<td>881</td>
<td>759</td>
<td>885</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>64</td>
<td>360</td>
<td>1660</td>
<td>363</td>
<td>1650</td>
<td><strong>361</strong></td>
<td><strong>1650</strong></td>
<td>64</td>
<td><strong>352</strong></td>
<td><strong>1690</strong></td>
<td>354</td>
<td>1690</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>64</td>
<td>1302</td>
<td>595</td>
<td>1309</td>
<td>592</td>
<td><strong>1304</strong></td>
<td><strong>594</strong></td>
<td>64</td>
<td>1139</td>
<td>680</td>
<td><strong>1139</strong></td>
<td><strong>680</strong></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>64</td>
<td><strong>1536</strong></td>
<td><strong>863</strong></td>
<td>1537</td>
<td>863</td>
<td>1535</td>
<td>864</td>
<td>64</td>
<td>1535</td>
<td>864</td>
<td>1540</td>
<td>861</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>64</td>
<td>1051</td>
<td>1350</td>
<td><strong>1050</strong></td>
<td><strong>1350</strong></td>
<td>1050</td>
<td>1350</td>
<td>64</td>
<td>1051</td>
<td>1350</td>
<td><strong>1050</strong></td>
<td><strong>1350</strong></td>
</tr>
<tr>
<td>471.onettp</td>
<td>64</td>
<td>1149</td>
<td>348</td>
<td>1148</td>
<td>348</td>
<td><strong>1148</strong></td>
<td><strong>348</strong></td>
<td>64</td>
<td>1098</td>
<td>364</td>
<td><strong>1111</strong></td>
<td><strong>360</strong></td>
</tr>
<tr>
<td>473.astar</td>
<td>64</td>
<td>533</td>
<td>842</td>
<td>534</td>
<td>841</td>
<td><strong>534</strong></td>
<td><strong>842</strong></td>
<td>64</td>
<td>522</td>
<td>861</td>
<td>532</td>
<td>845</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>64</td>
<td>566</td>
<td>780</td>
<td>564</td>
<td>783</td>
<td><strong>565</strong></td>
<td><strong>781</strong></td>
<td>64</td>
<td><strong>501</strong></td>
<td><strong>882</strong></td>
<td>503</td>
<td>878</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 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

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

**SPECint_rate2006** = 797
**SPECint_rate_base2006** = 744

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

**Platform Notes**

The system was configured as a single partition with 8 cells and 4 processors (8 cores) per cell. Memory was configured as 50% local and 50% interleaved.

The following config file entry was used to bind processes to cells using the HP-UX "mpsched" utility:
```
submit = let "MYNUM=$SPECCOPYNUM" ; let "LDOM=$MYNUM/8" ; mpsched -l $LDOM $command
```

**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,+pl,64M -Wl,-N
```

C++ benchmarks:
```
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pl,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
```
HP Integrity Superdome
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECint_rate2006 = 797
SPECint_rate_base2006 = 744

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

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

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 -Wl,+N

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 -Wl,+N

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: +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
/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 -Wl,+N
/usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a
Hewlett-Packard Company

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

SPECint_rate2006 = 797
SPECint_rate_base2006 = 744

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

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.08.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.08.xml

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 10:10:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 November 2006.