SPEC® CINT2006 Result

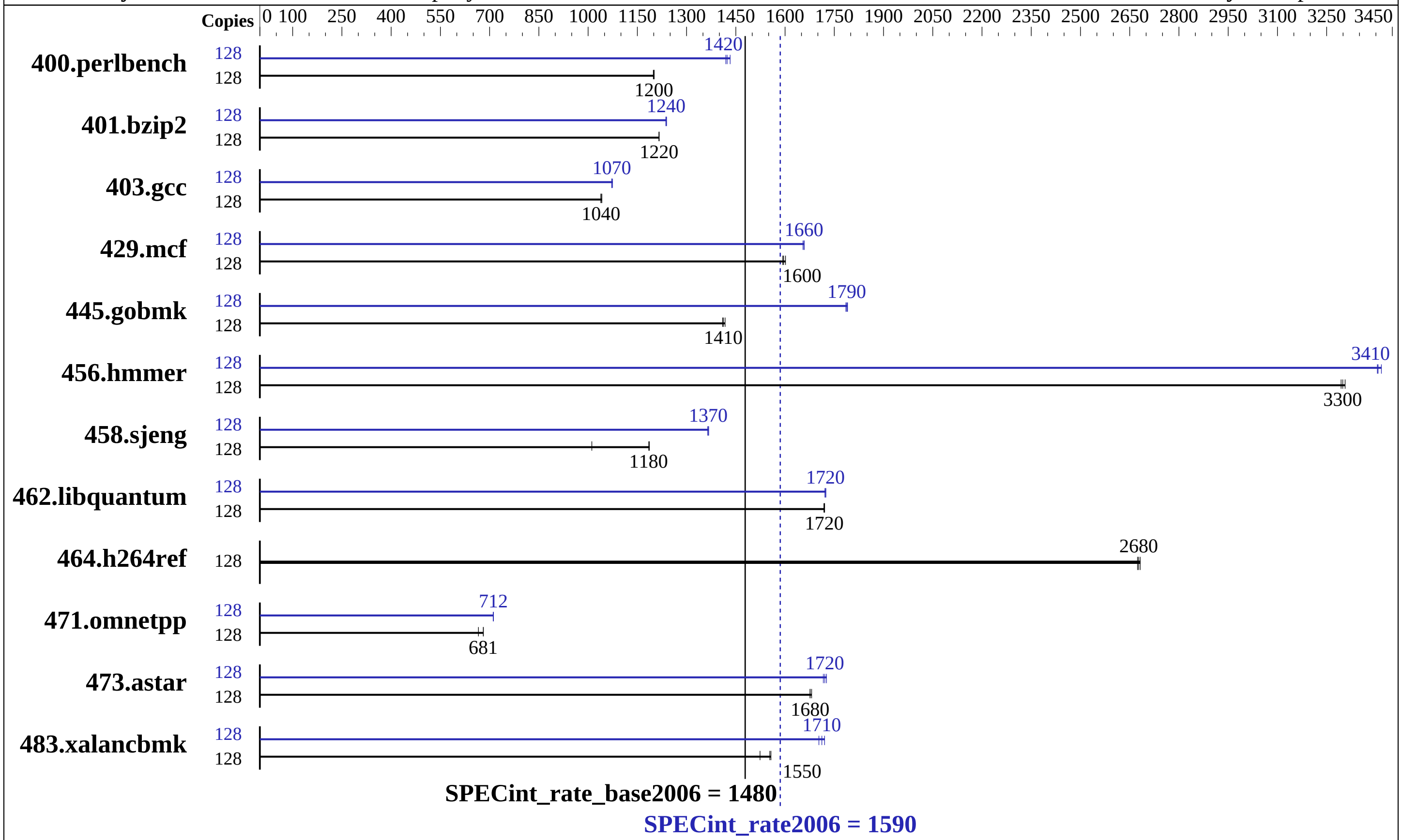
Hewlett-Packard Company

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

SPECint®_rate2006 = 1590

SPECint_rate_base2006 = 1480

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



Hardware

CPU Name:	Dual-Core Intel Itanium 2 9040
CPU Characteristics:	1.6GHz/18MB, 533MHz FSB
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	128 cores, 64 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:	9 MB I+D on chip per core
Other Cache:	None
Memory:	512 GB (512x1GB DIMMs)
Disk Subsystem:	3x73GB 15K RPM SCSI (striped)
Other Hardware:	None

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	1043	1200	1041	1200	**1042**	**1200**	128	873	1430	**878**	**1420**	881	1420
401.bzip2	128	1016	1220	1015	1220	**1016**	**1220**	128	**998**	**1240**	999	1240	997	1240
403.gcc	128	989	1040	**991**	**1040**	992	1040	128	961	1070	959	1070	**961**	**1070**
429.mcf	128	729	1600	733	1590	**732**	**1600**	128	704	1660	**704**	**1660**	706	1650
445.gobmk	128	947	1420	952	1410	**951**	**1410**	128	**751**	**1790**	752	1790	750	1790
456.hmmer	128	**362**	**3300**	363	3290	361	3310	128	351	3400	350	3420	**351**	**3410**
458.sjeng	128	1305	1190	1531	1010	**1307**	**1180**	128	**1134**	**1370**	1135	1360	1133	1370
462.libquantum	128	**1542**	**1720**	1541	1720	1543	1720	128	1541	1720	1538	1720	**1539**	**1720**
464.h264ref	128	1059	2670	1056	2680	**1058**	**2680**	128	1059	2670	1056	2680	**1058**	**2680**
471.omnetpp	128	1201	666	1175	681	**1175**	**681**	128	1125	711	1124	712	**1124**	**712**
473.astar	128	535	1680	**536**	**1680**	536	1680	128	521	1730	523	1720	**522**	**1720**
483.xalancbmk	128	**568**	**1550**	580	1520	567	1560	128	519	1700	513	1720	**516**	**1710**

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
```

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Hardware Availability: Sep-2006
Software Availability: Sep-2006

Platform Notes

```
The system was configured as a single partition with 16 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,+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

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 /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.20090715.11.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

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

Tested with SPEC CPU2006 v1.0.
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