



CFP2000 Result

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Hewlett-Packard Company
HP 9000 rp7420-16 (1000MHz PA-8800, 1 cell)

SPECfp_rate2000 = 57.0
SPECfp_rate_base2000 = 53.1

SPEC license #: 3 Tested by: HP Richardson Test date: Jan-2004 Hardware Avail: Feb-2004 Software Avail: Feb-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	315	47.1	8	199	74.8
171.swim	8	560	51.4	8	560	51.4
172.mgrid	8	347	48.1	8	347	48.1
173.applu	8	416	46.8	8	416	46.8
177.mesa	8	192	67.6	8	164	79.0
178.galgel	8	209	129	8	209	129
179.art	8	511	47.2	8	455	53.1
183.equake	8	387	31.2	8	334	36.1
187.facerec	8	258	68.4	8	255	69.0
188.amp	8	371	55.1	8	343	59.5
189.lucas	8	536	34.6	8	536	34.6
191.fma3d	8	419	46.5	8	419	46.5
200.sixtrack	8	197	51.8	8	190	53.6
301.apsi	8	378	63.9	8	378	63.9

Hardware

CPU: PA-8800
CPU MHz: 1000
FPU: Integrated
CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
CPU(s) orderable: 4,8,12,16 (order by # cores)
Parallel: no
Primary Cache: 0.75MBI + 0.75MBD (on chip) per core
Secondary Cache: 32MB (off chip) shared by 2 cores
L3 Cache: N/A
Other Cache: N/A
Memory: 16GB (16 * 1024MB DIMMs)
Disk Subsystem: 1x36GB 10K rpm SCSI
Other Hardware: N/A

Software

Operating System: HPUNIX11i-TCOE B.11.11.0312
Compiler: HP C/ANSI C B.11.11.08
HP Fortran90 Compiler B.11.01.74
File System: OnLineJFS
System State: Multi-user

Notes/Tuning Information

Portability flags:

178.galgel: +source=fixed

Baseline compile flags:

Fortran: +Ofaster -Wl,-a,archive

C : +I/+P +Oall +Odataprefetch -Wl,-a,archive

Peak compile flags:

168.wupwise: (ONESTEP) +cat +Ofaster -Wl,-a,archive

171.swim: basepeak=true

172.mgrid: basepeak=true

173.applu: basepeak=true

177.mesa: +I/+P +O4 +Odataprefetch -Wl,-a,archive

178.galgel: +Ofaster +Oloop_unroll=6 -Wl,-a,archive

179.art: +I/+P +Oall +Optrs_strongly_typed +Opromote_indirect_calls -Wl,-a,archive

183.equake: +O4 +Olibcalls +Odataprefetch +Optrs_strongly_typed



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Notes/Tuning Information (Continued)

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+Opromote_indirect_calls -Wl,+FPD -Wl,-a,archive
187.facerec: (ONESTEP) +cat +Ofaster +Ofastaccess -Wl,-a,archive
188.ammp: +I/+P +Oall +Odataprefetch +Optrs_strongly_typed
+Opromote_indirect_calls -Wl,-a,archive
189.lucas: basepeak=true
191.fma3d: basepeak=true
200.sixtrack: (ONESTEP) +cat +O3 +Onolibcalls +Onolimit +Onoinline
+Odataprefetch -Wl,+FPD -Wl,-a,archive
301.apsi: basepeak=true

```

Kernel Tunables:

```

dbc_max_pct=20
dbc_min_pct=20
maxdsiz=3221225472
maxssiz=401604608
maxdsiz_64bit=4396972761584
maxssiz_64bit=1073741824
vps_pagesize=4096
vps_ceiling=16384

```

Other notes:

The system under test had the HP-UX 11i v1 December 2003
Technical Computing Operating Environment (version 11.11.0312)
and DART63 (December 2003) compilers installed, with the
following patches applied:

```

GOLDAPPS11i Gold Applications Patches for HP-UX 11i v1, December 2003
GOLDBASE11i Gold Base Patches for HP-UX 11i v1, December 2003
HWEnable11i Hardware Enablement Patches for HP-UX 11i v1, December 2003
HWETEST1111 Hardware Enablement Patches for PA-8800 (prerelease)
PHSS_29483 aC++ compiler cumulative patch (A.03.52)
PHSS_30002 Fortran90 cumulative patch (B.11.01.74)

```

System was configured with all memory interleaved

System configured as a single partition with 1 cell and
4 PA-8800 modules (each with 2 processors) per cell

Filesystem used for spec runs mounted "tmplog"