



CFP2000 Result

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Hewlett-Packard Company
HP 9000 Superdome (1000MHz PA-8800, 8 cells)

SPECfp_rate2000 = 314
SPECfp_rate_base2000 = 300

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	64	383	310	64	329	361
171.swim	64	1435	160	64	1435	160
172.mgrid	64	814	164	64	814	164
173.applu	64	1060	147	64	1060	147
177.mesa	64	196	529	64	168	620
178.galgel	64	216	997	64	213	1009
179.art	64	501	385	64	457	422
183.equake	64	584	165	64	561	172
187.facerec	64	276	511	64	261	540
188.amp	64	372	438	64	345	474
189.lucas	64	1005	148	64	1005	148
191.fma3d	64	777	201	64	777	201
200.sixtrack	64	191	427	64	185	442
301.apsi	64	453	427	64	453	427

Hardware	Software
CPU: PA-8800	Operating System: HPUX11i-TCOE B.11.11.0312
CPU MHz: 1000	Compiler: HP C/ANSI C B.11.11.08
FPU: Integrated	HP Fortran90 Compiler B.11.01.74
CPU(s) enabled: 64 cores, 32 chips, 2 cores/chip	File System: OnLineJFS
CPU(s) orderable: 4-128 cores (up to 64/partition)	System State: Multi-user
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: 128GB (256 * 512MB DIMMs)	
Disk Subsystem: 10x36GB 10K rpm SCSI (striped)	
Other Hardware: N/A	

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 8 cells and
4 PA-8800 modules (each with 2 processors) per cell

Filesystem used for spec runs mounted "tmplog"