



CFP2000 Result

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Hewlett-Packard Company

HP Integrity rx8620 (1500 MHz Itanium 2)

SPECfp_rate2000 = 234

SPECfp_rate_base2000 = 212

SPEC license #: 3 Tested by: HP Richardson Test date: Oct-2003 Hardware Avail: Nov-2003 Software Avail: Oct-2003

2000	1500	1000	500	Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
				168.wupwise	16	159	186	16	159	186
				171.swim	16	283	203	16	283	203
				172.mgrid	16	210	159	16	193	173
				173.applu	16	256	153	16	241	162
				177.mesa	16	128	203	16	125	208
				178.galgel	16	75.4	714	16	42.9	1254
				179.art	16	65.0	742	16	65.0	742
				183.equake	16	195	124	16	139	173
				187.facerec	16	173	204	16	156	226
				188.amp	16	153	266	16	153	266
				189.lucas	16	260	142	16	226	164
				191.fma3d	16	333	117	16	311	125
				200.sixtrack	16	79.6	256	16	79.6	256
				301.apsi	16	360	134	16	360	134

Hardware

CPU: Intel Itanium 2
 CPU MHz: 1500
 FPU: Integrated
 CPU(s) enabled: 16 cores, 16 chips, 1 core/chip
 CPU(s) orderable: 2,4,6,8,10,12,14,16
 Parallel: no
 Primary Cache: 16KBI + 16KBD (on chip) per CPU
 Secondary Cache: 256KB (on chip) per CPU
 L3 Cache: 6.0MB (on chip) per CPU
 Other Cache: N/A
 Memory: 32GB (64 * 512MB DIMMs)
 Disk Subsystem: 10x36GB 10K rpm SCSI (striped)
 Other Hardware: N/A

Software

Operating System: HPUX11i-TCOE B.11.23
 Compiler: HP C/ANSI C Compiler A.05.52
 HP Fortran90 Compiler B.11.23
 File System: vxfs
 System State: Multi-user

Notes/Tuning Information

Portability Flags

178.galgel: +source=fixed

Base Flags

f90 : +Oprofile=collect:all/+Oprofile=use +Ofaster -minshared
 C : +Oprofile=collect:all/+Oprofile=use +Ofaster +Otype_safety=ansi -exec

Peak Flags:

168.wupwise : basepeak=true
 171.swim : basepeak=true
 172.mgrid : +Ofaster -minshared +Oprefetch_latency=1280
 173.applu : +Ofast +O3 -minshared
 177.mesa : +Oprofile=collect:all/+Oprofile=use +Ofaster +Otype_safety=ansi
 -exec +Oprefetch_latency=1280
 178.galgel : +Oprofile=collect:all/+Oprofile=use +Ofast +Onoptrs_to_globals
 -minshared +O3 +Oloop_unroll=11 +DD64



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Notes/Tuning Information (Continued)

RM_SOURCES = lapak.f90 LIBS = -llapack

```

179.art      : basepeak=true
183.earthquake : +Oprofile=collect:all/+Oprofile=use +Ofaster +Onorecovery
              : +Onoptrs_to_globals +Otype_safety=strong -exec
              : LIBS = -Bprotected /opt/langtools/lib/hpux32/effmem.o
187.facerec  : +Ofast +Onoptrs_to_globals -minshared +O3 +Oloop_unroll=2
188.ammpp    : basepeak=true
189.lucas    : +Ofast +Onoptrs_to_globals -minshared +O3
191.fma3d    : +Oprofile=collect:all/+Oprofile=use +Ofast +Onoptrs_to_globals
              : -minshared +O3
200.sixtrack : basepeak=true
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

```

The system under test had the HP-UX 11i v2 (version 11.23) Technical Computing Operating Environment and compilers installed, with the following patches applied:

```

PHSS_29655  aC++ compiler (A.05.52)
PHSS_29656  HP C Compiler (A.05.52)
PHSS_29657  u2comp/be/plugin library Patch
PHSS_29663  Fortran Product Patch, v2.7 to v2.7.2

```

Other notes:

System was configured with 1/2 of memory interleaved and 1/2 of memory local to each cell

System configured as a single partition with 4 cells and 4 processors per cell

Processes were assigned to localities using the HP-UX mpsched utility

Filesystem used for spec runs mounted "tmplog"