



# CFP2000 Result

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Hewlett-Packard Company  
HP Integrity rx7620 (1300 MHz Itanium 2)

SPECfp\_rate2000 = 104  
SPECfp\_rate\_base2000 = 95.3

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	185	80.2	8	185	80.2
171.swim	8	282	102	8	282	102
172.mgrid	8	222	75.4	8	203	82.5
173.applu	8	260	75.0	8	244	79.9
177.mesa	8	148	87.8	8	144	90.0
178.galgel	8	97.6	276	8	63.1	426
179.art	8	73.0	331	8	73.0	331
183.equake	8	209	57.6	8	148	81.4
187.facerec	8	217	81.1	8	200	88.0
188.amp	8	188	109	8	188	109
189.lucas	8	267	69.6	8	231	80.4
191.fma3d	8	358	54.5	8	340	57.3
200.sixtrack	8	91.9	111	8	91.9	111
301.apsi	8	377	64.0	8	377	64.0

### Hardware

CPU: Intel Itanium 2  
 CPU MHz: 1300  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 8 chips, 1 core/chip  
 CPU(s) orderable: 2,4,6,8  
 Parallel: no  
 Primary Cache: 16KBI + 16KBD (on chip) per CPU  
 Secondary Cache: 256KB (on chip) per CPU  
 L3 Cache: 3.0MB (on chip) per CPU  
 Other Cache: N/A  
 Memory: 16GB (32 \* 512MB DIMMs)  
 Disk Subsystem: 2x18GB 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 2 cells and 4 processors per cell

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

Filesystem used for spec runs mounted "tmplog"