



# CFP2000 Result

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**Hewlett-Packard Company**  
ProLiant DL365 (AMD Opteron (TM) 2220SE)

SPECfp\_rate2000 = **80.1**  
SPECfp\_rate\_base2000 = **73.0**

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Oct-2006 Hardware Avail: Jan-2007 Software Avail: Sep-2006

| Benchmark    | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|--------------|-------------|--------------|------------|--------|---------|-------|
| 168.wupwise  | 4           | 60.2         | 123        | 4      | 60.2    | 123   |
| 171.swim     | 4           | 214          | 67.2       | 4      | 183     | 78.5  |
| 172.mgrid    | 4           | 126          | 66.3       | 4      | 126     | 66.3  |
| 173.applu    | 4           | 171          | 57.1       | 4      | 152     | 64.2  |
| 177.mesa     | 4           | 130          | 50.1       | 4      | 63.4    | 103   |
| 178.galgel   | 4           | 109          | 123        | 4      | 106     | 127   |
| 179.art      | 4           | 70.3         | 172        | 4      | 70.2    | 172   |
| 183.quake    | 4           | 95.0         | 63.5       | 4      | 95.0    | 63.5  |
| 187.facerec  | 4           | 104          | 84.9       | 4      | 109     | 80.9  |
| 188.amp      | 4           | 186          | 54.7       | 4      | 152     | 67.3  |
| 189.lucas    | 4           | 134          | 69.1       | 4      | 129     | 72.2  |
| 191.fma3d    | 4           | 150          | 65.2       | 4      | 137     | 71.2  |
| 200.sixtrack | 4           | 131          | 39.0       | 4      | 131     | 39.0  |
| 301.apsi     | 4           | 171          | 70.5       | 4      | 171     | 70.5  |

**Hardware**

CPU: AMD Opteron (TM) 2220SE  
CPU MHz: 2800  
FPU: Integrated  
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
CPU(s) orderable: 1,2 chips  
Parallel: No  
Primary Cache: 64 KB I + 64 KB D on chip per core  
Secondary Cache: 1 MB I+D on chip per core  
L3 Cache: N/A  
Other Cache: N/A  
Memory: 16 GB (8x2 GB PC2-5300P CL5.0)  
Disk Subsystem: 1x36 GB 10 K SAS  
Other Hardware:

**Software**

Operating System: Windows Server 2003 Enterprise SP1  
Compiler: Intel C++ Compiler for 32-bit applications, (version 9.1 Build 20060816Z)  
Intel Fortran Compiler for 32-bit applications, (version 9.1 build 20060816Z)  
PGI Fortran compiler 6.0-8 for Windows XP (32-bit)  
PGI C compiler 6.0-8 for Windows XP (32-bit)  
Microsoft Visual Studio .NET 7.0.9466 (for libraries)  
AMD Core Math Library V3.5.0

File System: NTFS  
System State: Default

## Notes/Tuning Information

```
+FDO: PASS1=-Qprof_gen PASS2=-Qprof_use (Intel compiler)
+FDO*: PASS1=-Mpfi PASS2=-Mpfo (PGI compiler)
+ACML is linking with AMD Core Math Library V3.5.0
ifort is the Intel Fortran compiler, icl is the Intel C++ compiler and
pgf90 is the PGI Fortran compiler, pgcc is the PGI C compiler.
Base tuning for C programs: pgcc -fastsse -Mipa=fast,inline
Base tuning for FORTRAN programs: pgf90 -fastsse -Mipa=fast,inline +FDO* ONESTEP=1
Portability flags:
 178.galgel: -Mfixed
Peak tuning:
168.wupwise: pgf90 basepeak=yes
171.swim: ifort -Qipo -O3 -QaxN -QxW +FDO -Qunroll0 ONESTEP=1
172.mgrid: pgf90 basepeak=yes
173.applu: ifort -Qipo -O3 -QaxN -QxW +FDO -auto ONESTEP=1
177.mesa: icl -Qipo -arch:SSE2 +FDO -Qunroll1 -Qansi_alias ONESTEP=1
           -Qoption,c,-ip_ninl_max_stats=1500,-ip_ninl_max_total_stats=4500
178.galgel: pgf90 -fastsse -Mipa=fast,safe RM_SOURCES=lapak.f90 -Munix +ACML ONESTEP=1
```



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## Notes/Tuning Information (Continued)

```

179.art:          pgcc -fastsse -Mipa=fast,inline
183.quake:       icl basepeak=yes
187.facerec:     ifort -Qipo -QxW +FDO -Qunroll3 ONESTEP=1
                  -Qoption,f,-ip_ninl_max_stats=2500,-ip_ninl_max_total_stats=7000
188.ampp:        icl -Oa -arch:SSE2 -Zp4 -Qansi_alias ONESTEP=1
189.lucas:       ifort -Qipo -QxW -Qunroll1 ONESTEP=1
191.fma3d:       ifort -Qipo -QaxN -QxW +FDO -Qansi_alias- ONESTEP=1
200.sixtrack:   pgf90 basepeak=yes
301.apsi:        pgf90 basepeak=yes

```

### BIOS Configuration Notes

Node Interleaving is Disabled

### Other Configuration Notes

The start /b /wait /affinity command is used to bind CPU(s) to processes.