



CFP2000 Result

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Compaq Computer Corporation AlphaServer GS80 Model 6/731

SPECfp2000 = 444

SPECfp_base2000 = 405

SPEC license #: 2 Tested by: Compaq NH Test date: Apr-2000 Hardware Avail: Dec-2000 Software Avail: Jul-2000

| Benchmark | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |
|----------------|----------------|--------------|------------|---------|-------|
| 168.wupwise | 1600 | 399 | 401 | 355 | 451 |
| 171.swim | 3100 | 390 | 795 | 395 | 785 |
| 172.mgrid | 1800 | 461 | 391 | 439 | 410 |
| 173.applu | 2100 | 746 | 281 | 610 | 344 |
| 177.mesa | 1400 | 258 | 542 | 244 | 574 |
| 178.galgel | 2900 | 705 | 412 | 434 | 668 |
| 179.art | 2600 | 214 | 1217 | 178 | 1461 |
| 183.earthquake | 1300 | 896 | 145 | 901 | 144 |
| 187.facerec | 1900 | 379 | 501 | 365 | 521 |
| 188.amp | 2200 | 759 | 290 | 659 | 334 |
| 189.lucas | 2000 | 432 | 463 | 434 | 461 |
| 191.fma3d | 2100 | 614 | 342 | 597 | 352 |
| 200.sixtrack | 1100 | 381 | 289 | 380 | 290 |
| 301.apsi | 2600 | 739 | 352 | 730 | 356 |

Hardware

CPU: Alpha 21264A
CPU MHz: 731
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: Up to 8
Parallel: No
Primary Cache: 64KB(I)+64KB(D) on chip
Secondary Cache: 4MB off chip per CPU
L3 Cache: None
Other Cache: None
Memory: 4GB
Disk Subsystem: mfs (Memory File System)
Other Hardware: Ethernet

Software

Operating System: Tru64 Unix V5.1 (Release for GS160,GS320)
Compiler: Compaq C T6.3-120-44A2I
Compaq Fortran V5.3
/usr/bin/f77: fort (not fort90)
KAP Fortran V4.2
KAP C 4.0
File System: mfs
System State: Multi-user

Notes/Tuning Information

Baseline C: cc -arch ev6 -fast -O4 ONESTEP
Fortran: kf90 -arch ev6 -O5 -fkapargs='-ur=-1' ONESTEP

Peak: -g3 -arch ev6 -non_shared ONESTEP plus:
168.wupwise: f77 -fast -O4 -pipeline -unroll 2
171.swim: f90 -fast -O5 -transform_loops
172.mgrid: kf77 -O5 -transform_loops -tune ev6 -unroll 8
173.applu: f77 -fast -O5 -transform_loops -unroll 14
177.mesa: cc -fast -O4
178.galgel: kf90 -O4 -unroll 2 -ldxml
RM_SOURCES = lapak.f90
179.art: kcc -fast -O4 -ckapargs='-arl=4 -ur=4' -unroll 10
183.earthquake: kcc -fast -ckapargs='-arl=4' -xtaso_short
187.facerec: f90 -fast -O4
188.amp: cc -fast -O4 -xtaso_short
189.lucas: kf90 -fast -O5 -fkapargs='-ur=1' -unroll 1
191.fma3d: kf90 -O4



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Notes/Tuning Information (Continued)

```
200.sixtrack: f90 -fast -O5 -transform_loops
301.apsi: kf90 -O5 -transform_loops -unroll 8 -fkapargs='-ur=1'
```

Portability: galgel: -fixed

Compaq C T6.3 is posted at <http://www.unix.digital.com/dtk/>
It has been available as an ADK (Advanced Developers' Kit)
since February, 2000; the final version will be posted
in July, 2000.

The SPEC CPU2000 binaries were compiled under Unix V4.0F.

sysconfigtab settings:

```
max_proc_per_user = 4096
max_threads_per_user = 4096
per_proc_data_size = 21474836480
max_per_proc_data_size = 21474836480
per_proc_address_space = 21474836480
max_per_proc_address_space = 21474836480
```

Tru64 Unix V5.1 will ship in Jul-2000 for use on the GS160, GS320 platforms;
the final version will ship Sep-2000.