



# CFP2000 Result

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Compaq Computer Corporation  
AlphaServer ES40 Model 6/500

SPECfp\_rate2000 = 4.86  
SPECfp\_rate\_base2000 = 4.44

SPEC license #: 2 | Tested by: Compaq NH | Test date: Sep-2000 | Hardware Avail: Apr-1999 | Software Avail: Jul-2000

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	425	4.37	1	396	4.69
171.swim	1	353	10.2	1	362	9.95
172.mgrid	1	446	4.69	1	426	4.90
173.applu	1	657	3.71	1	506	4.81
177.mesa	1	333	4.88	1	320	5.08
178.galgel	1	941	3.57	1	532	6.32
179.art	1	341	8.84	1	286	10.6
183.quake	1	701	2.15	1	705	2.14
187.facerec	1	425	5.18	1	357	6.17
188.ammpp	1	776	3.29	1	833	3.06
189.lucas	1	372	6.24	1	384	6.04
191.fma3d	1	546	4.46	1	518	4.71
200.sixtrack	1	542	2.35	1	541	2.36
301.apsi	1	758	3.98	1	737	4.09

### Hardware

CPU: Alpha 21264  
 CPU MHz: 500  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1 to 4  
 Parallel: No  
 Primary Cache: 64KB(I)+64KB(D) on chip  
 Secondary Cache: 4MB off chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16GB  
 Disk Subsystem: 1x18GB BD018122C0  
 Other Hardware: Ethernet

### Software

Operating System: Tru64 UNIX V4.0G  
 Compiler: Compaq C X6.2-259-449AT  
 Compaq Fortran V5.3  
 /usr/bin/f77: fort (not fort90)  
 KAP Fortran V4.2  
 KAP C 4.0  
 File System: ufs  
 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.quake: kcc -fast -ckapargs='-arl=4' -xtaso\_short  
 187.facerec: f90 -fast -O4  
 188.ammpp: 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 -fkpargs='-ur=1'
```

Portability: galgel: -fixed