



# CFP2000 Result

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Compaq Computer Corporation  
AlphaServer ES40 Model 6/667

SPECfp\_rate2000 = 6.50  
SPECfp\_rate\_base2000 = 5.87

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	1	347	5.35	1	313	5.94
171.swim	1	291	12.4	1	298	12.1
172.mgrid	1	344	6.08	1	333	6.27
173.applu	1	541	4.50	1	415	5.87
177.mesa	1	249	6.52	1	242	6.70
178.galgel	1	651	5.17	1	351	9.57
179.art	1	213	14.2	1	169	17.9
183.quake	1	599	2.52	1	599	2.52
187.facerec	1	284	7.75	1	238	9.24
188.ammmp	1	523	4.88	1	564	4.53
189.lucas	1	301	7.70	1	311	7.45
191.fma3d	1	449	5.42	1	420	5.80
200.sixtrack	1	405	3.15	1	407	3.13
301.apsi	1	568	5.31	1	546	5.52

**Hardware**

CPU: Alpha 21264A  
CPU MHz: 667  
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: 8MB 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.ammmp: 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