CFP2000 Result

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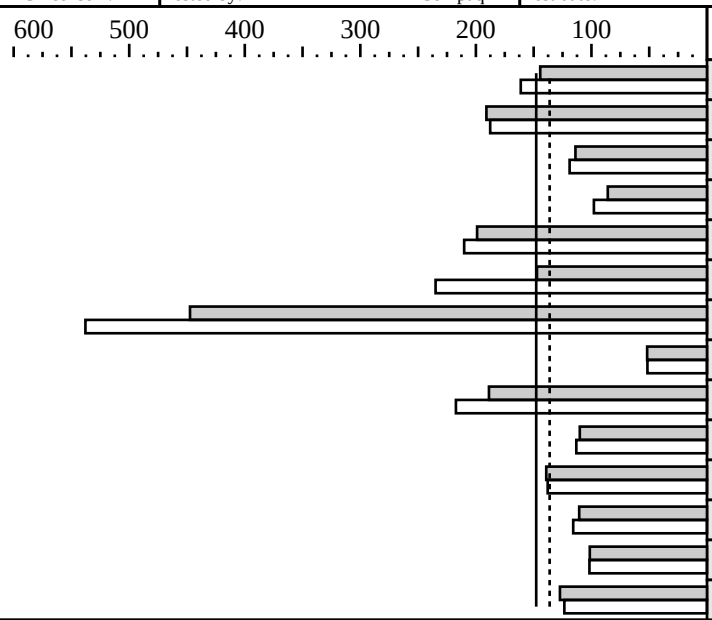
Compaq Computer Corporation
AlphaServer GS320 Model 6/731

SPECfp_rate2000 = 148

SPECfp_rate_base2000 = 136

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	32	412	144	32	369	161
171.swim	32	603	191	32	613	188
172.mgrid	32	587	114	32	562	119
173.applu	32	908	85.9	32	796	97.9
177.mesa	32	261	199	32	247	210
178.galgel	32	732	147	32	458	235
179.art	32	216	447	32	179	538
183.equake	32	932	51.8	32	936	51.6
187.facerec	32	374	189	32	325	217
188.ammp	32	742	110	32	722	113
189.lucas	32	534	139	32	538	138
191.fma3d	32	705	111	32	673	116
200.sixtrack	32	403	101	32	401	102
301.apsi	32	758	127	32	782	123

Hardware

CPU:	Alpha 21264A
CPU MHz:	731
FPU:	Integrated
CPU(s) enabled:	32 cores, 32 chips, 1 core/chip
CPU(s) orderable:	Up to 32
Parallel:	No
Primary Cache:	64KB(I)+64KB(D) on chip
Secondary Cache:	4MB off chip per CPU
L3 Cache:	None
Other Cache:	None
Memory:	64GB (8x8GB)
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: -v -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.equake: kcc -fast -ckapargs='-arl=4' -xtaso_short
   187.facerec: f90 -fast -O4
      188.ammp: 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.
 submit = runon <cpu #> $command
 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.
```