



CINT2000 Result

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Compaq Computer Corporation
AlphaServer GS320 Model 6/731

SPECint_rate2000 = 142
SPECint_rate_base2000 = 123

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 |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip | 32 | 468 | 111 | 32 | 415 | 125 |
| 175.vpr | 32 | 458 | 113 | 32 | 441 | 118 |
| 176.gcc | 32 | 275 | 148 | 32 | 237 | 172 |
| 181.mcf | 32 | 1150 | 58.1 | 32 | 894 | 74.8 |
| 186.crafty | 32 | 184 | 201 | 32 | 193 | 193 |
| 197.parser | 32 | 755 | 88.5 | 32 | 537 | 124 |
| 252.eon | 32 | 256 | 188 | 32 | 243 | 199 |
| 253.perlbnk | 32 | 622 | 107 | 32 | 453 | 147 |
| 254.gap | 32 | 482 | 84.7 | 32 | 460 | 88.7 |
| 255.vortex | 32 | 483 | 146 | 32 | 367 | 192 |
| 256.bzip2 | 32 | 391 | 142 | 32 | 359 | 155 |
| 300.twolf | 32 | 624 | 178 | 32 | 591 | 189 |

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
DIGITAL C++ V6.1-029-408B6
File System: mfs
System State: Multi-user

Notes/Tuning Information

Baseline C : cc -arch ev6 -fast GEMFB -non_shared
C++: cxx -arch ev6 -O2 ONESTEP

GEMFB: fdo_pre0 = mkdir /tmp/pb; rm -f /tmp/pb/\${baseexe}
PASS1_CFLAGS = -prof_gen_noopt -prof_dir /tmp/pb
PASS2_CFLAGS = -prof_use_feedback -prof_dir /tmp/pb
(base uses directory /tmp/pb; peak uses /tmp/pp)

Peak: cc [except eon: cxx] -v -arch ev6 ONESTEP plus:

164.gzip: -g3 -fast -O4 +GEMFB
175.vpr: -g3 -fast -O4 +GEMFB
176.gcc: -g3 -fast -O4 -xtaso_short +GEMFB
181.mcf: -g3 -fast -xtaso_short +GEMFB
186.crafty: -g3 -fast -O4 -inline speed
197.parser: -g3 -fast -O4 -xtaso_short +GEMFB
252.eon: -O2
253.perlbnk: -g3 -fast +GEMFB -non_shared
254.gap: -g3 -fast -O4 +GEMFB
255.vortex: -g3 -fast +GEMFB
256.bzip2: -g3 -fast -O4 +GEMFB



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Notes/Tuning Information (Continued)

```
300.twolf: -g3 -fast -O4 +GEMFB
```

```
Portability: gcc: -Dalloca=__builtin_alloca; crafty: -DALPHA  
perlbmk: -DSPEC_CPU2000_DUNIX; vortex: -DSPEC_CPU2000_LP64  
gap: -DSYS_HAS_CALLOC_PROTO -DSYS_IS_BSD -DSYS_HAS_IOCTL_PROTO -DSPEC_CPU2000_LP64
```

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.