



# CINT2000 Result

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Hewlett-Packard Company  
HP Integrity rx8620 (1500 MHz Itanium 2)

SPECint\_rate2000 = 117  
SPECint\_rate\_base2000 = 115

SPEC license #: 3 Tested by: HP Richardson Test date: Oct-2003 Hardware Avail: Nov-2003 Software Avail: Oct-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	148	87.8	8	148	87.8
175.vpr	8	131	98.8	8	128	101
176.gcc	8	76.5	133	8	76.5	133
181.mcf	8	102	164	8	102	164
186.crafty	8	82.0	113	8	81.4	114
197.parser	8	188	89.0	8	188	89.0
252.eon	8	85.0	142	8	82.0	147
253.perlbnk	8	153	109	8	144	116
254.gap	8	124	82.1	8	124	82.1
255.vortex	8	103	171	8	101	175
256.bzip2	8	126	111	8	126	111
300.twolf	8	234	119	8	228	122

### Hardware

CPU: Intel Itanium 2  
CPU MHz: 1500  
FPU: Integrated  
CPU(s) enabled: 8 cores, 8 chips, 1 core/chip  
CPU(s) orderable: 2,4,6,8,10,12,14,16  
Parallel: no  
Primary Cache: 16KBI + 16KBD (on chip) per CPU  
Secondary Cache: 256KB (on chip) per CPU  
L3 Cache: 6.0MB (on chip) per CPU  
Other Cache: N/A  
Memory: 32GB (64 \* 512MB DIMMs)  
Disk Subsystem: 10x36GB 10K rpm SCSI (striped)  
Other Hardware: N/A

### Software

Operating System: HPUX11i-TCOE B.11.23  
Compiler: HP C/ANSI C Compiler A.05.52  
HP aC++ Compiler A.05.52  
File System: vxfs  
System State: Multi-user

## Notes/Tuning Information

### Portability Flags

176.gcc : -DHOST\_WORDS\_BIG\_ENDIAN  
186.crafty : -DHP  
252.eon : -DFMAX\_IS\_DOUBLE  
253.perlbnk : -DSPEC\_CPU2000\_HP  
254.gap : -DSPEC\_CPU2000\_HP -DSYS\_IS\_USG -DSYS\_HAS\_IOCTL\_PROTO  
-DSYS\_HAS\_TIME\_PROTO -DSYS\_HAS\_CALLOC\_PROTO

### Base Flags

all : +Oprofile=collect:all/+Oprofile=use  
C : +Ofaster -exec +Odatalayout  
C++ : +Ofaster +inline\_level 2 -minshared

### Peak Flags

164.gzip : basepeak=true  
175.vpr : +Oprofile=collect:all/+Oprofile=use +Ofaster -exec +Odatalayout  
+Onoptrs\_to\_globals +Onorecovery  
176.gcc : basepeak=true  
181.mcf : basepeak=true  
186.crafty : +Oprofile=collect:all/+Oprofile=use +Ofaster -exec +Odatalayout



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## Notes/Tuning Information (Continued)

```

+Otype_safety=ansi
197.parser : basepeak=true
252.eon : +Oprofile=collect:all/+Oprofile=use +Ofaster +inline_level 2
        -minshared +Otype_safety=ansi
253.perlbnk : +Oprofile=collect:all/+Oprofile=use +Ofaster -exec +Odatalayout
        +Onoptrs_to_globals
        LIBS = /opt/langtools/lib/hpux32/fastmem.o
254.gap : basepeak=true
255.vortex : +Oprofile=collect:all/+Oprofile=use +Ofaster -exec +Odatalayout
        +Onoptrs_to_globals +Onorecovery
256.bzip2 : basepeak=true
300.twolf : +Oprofile=collect:all/+Oprofile=use +Ofaster -exec +Odatalayout
        +Onoptrs_to_globals
        LIBS = /opt/langtools/lib/hpux32/effmem.o

```

### Kernel Tunables:

```

dbc_max_pct=20
dbc_min_pct=20
maxdsiz=3221225472
maxssiz=401604608
maxdsiz_64bit=4396972761584
maxssiz_64bit=1073741824
vps_pagesize=4096
vps_ceiling=16384

```

The system under test had the HP-UX 11i v2 (version 11.23) Technical Computing Operating Environment and compilers installed, with the following patches applied:

```

PHSS_29655 aC++ compiler (A.05.52)
PHSS_29656 HP C Compiler (A.05.52)
PHSS_29657 u2comp/be/plugin library Patch
PHSS_29663 Fortran Product Patch, v2.7 to v2.7.2

```

### Notes:

System was configured with 1/2 of memory interleaved and 1/2 of memory local to each cell

System configured as a single partition with 4 cells and 2 processors per cell  
(unused processors disabled by firmware comand cpuconfig)

Processes were assigned to localities using the HP-UX mpsched utility

Filesystem used for spec runs mounted "tmplog"