15APR91 DDT results on a Sun IPC, a Sun Sparcstation 2, a IBM RS/6000 Model 550, and a Convex C1.

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1 Introduction

The Large DDT has been run on a Sun IPC, a Sun Sparcstation 2, A Convex C1 and an IBM RS/6000 model 550. The same binaries were run on both Suns.

In all cases the binaries were compiled with no optimization, aside from the routines in $QPSAP (and below) which were compiled with the maximum optimization ("-O2" on the Convex, "-O4" on Suns and "-O -P -Wp,-ea278" on IBMs). The pseudo-AP memory size was 1.25MW for all machines (i.e., sum of PKPWD and PKPWD2).

On the workstations, all I/O was to and from a single local disk. On the Convex, the masters and test files were on a single disk, however scratch files could go on all 6 disks. The machines were lightly loaded, but were not in single user mode, so background tasks such as processing incoming mail and serving NFS request were occurring while the test was in progress.

This run on the Convex provided the calibration for the (Large) AIPSmark, i.e. a scaling was chosen to make the AIPSmark for the Convex C1 close to 1.0.

2 Correctness

EDGSKP was set to 8 during the runs. The IPC and SS2 apparently performed identically; the IBM performance was essentially identical. The Convex had the greatest differences, which is not surprising considering that some of it's Q routines are very different (vector) from the ones used by the workstations. See Table 1.

3 Task Real and CPU times

See Table 2.

4 Total Run Time

This is the time taken from subtracting the start time ("run ddtexec") from the end time ("PRINTING ANSWERS, ERRORS, OTHER IMPORTANT MESSAGES"). These times were obtained from looking at the verbose output of the runs - i.e., "log" messages.

```
IBM =  3261 seconds
C1  =  6545 seconds
SS2 = 11164 seconds
IPC = 21045 seconds
```

5 AIPSmark

AIPSmarks (Large) are defined to be:

$$\frac{5000}{(total\ run\ time) - 0.6 \times (ASCAL\ run\ time)}$$

(all times in seconds).

```
IBM = 2.08
C1  = 1.01
SS2 = 0.69
IPC = 0.36
```

	Sun IPC		Sun SS2		IBM 550		Convex C1	
Task	Peak	RMS	Peak	RMS	Peak	RMS	Peak	RMS
UVMAP	12.4	15.6	12.4	15.6	12.3	17.3	11.9	15.6
UVBEAM	14.2	16.1	14.2	16.1	14.9	17.7	14.0	16.1
APCLN	10.9	16.8	10.9	16.8	10.8	16.8	13.0	17.3
APRES	14.2	20.7	14.2	20.7	14.2	20.6	14.2	20.7
MXMAP	13.5	18.0	13.5	18.0	13.2	18.6	13.3	18.0
MXBEAM	14.7	19.4	14.7	19.4	14.8	19.4	14.3	19.3
MXCLN	9.5	15.8	9.5	15.8	9.5	15.9	9.7	15.9
VTESS	18.6	27.2	18.6	27.2	18.6	27.2	21.2	29.2

Table 1: Correct Bits

	Sun IPC		Sun SS2		IBM 550		Convex C1	
Task	Real	CPU	Real	CPU	Real	CPU	Real	CPU
UVSRT(1)	168	66	114	41	43	16	87	77
UVMAP	323	195	142	103	88	25	116	93
APCLN	2564	2245	1319	1278	444	411	607	549
APRES	236	163	109	85	33	20	106	87
ASCAL	11687	11574	6452	5920	1426	1412	2672	2494
UVSRT(2)	155	67	95	40	44	16	89	78
MXMAP	305	172	133	95	66	25	132	97
MXCLN	3660	2947	1831	1725	598	495	1146	931
VTESS	1118	776	490	418	153	111	406	343

Table 2: Real and CPU Times (seconds)