

## 1 SUMMARY

Provides the Fortran programmer with the CPU time.

**ATTRIBUTES** — **Version:** 1.0.0. **Types:** ZA02AS. **Remark:** This package is also included in the HSL Archive. **Calls:** ETIME (generic UNIX), MCLOCK (AIX), LIB\$GETJPI (Vax), CPUTIME (IBM mainframe), SECOND (Cray), CLOCK (Salford with Intel), GETTIM (Waterloo with Intel). **Original date:** July 1990. **Origin:** R.C.F.McLatchie and M.J.Hopper, Harwell. **Licence:** A third-party licence for this package is available without charge.

## 2 HOW TO USE THE PACKAGE

### 2.1 The Argument List and Calling Sequence

```
T = ZA02AS(DUMMY)
```

T is a REAL variable that will be set to the current CPU clock reading in seconds.

DUMMY is a dummy argument that is ignored by ZA02AS.

## 3 GENERAL INFORMATION

**Workspace:** none.

**Use of common:** none.

**Other routines called directly:** calls ETIME (generic UNIX), MCLOCK (AIX), LIB\$GETJPI (Vax), CPUTIME (IBM mainframe), SECOND (Cray), CLOCK (Salford with Intel), GETTIM (Waterloo with Intel).

**Input/output:** none.

## 4 METHOD

The subroutine is interfaced to the CPU timers on various machines. For further information the user should reference the appropriate manuals. In particular, a direct call to the IBM routine CPUTIME provides more information.

### References

1. IBM VS Fortran version 2, Language and Library reference, release 3 and later. (SC26-4221-3)
2. Vol. 1 Unicos Fortran Library Reference Manual Vol1 SR-2079 5.0
3. VAX Fortran Language Reference Manual. AA-DD34E-7E
4. Sun Fortran Programmers Guide. Ref No 800-2163-10 Revision A.

## 5 EXAMPLE OF USE

Suppose it is required to time a call of the subroutine CALC. takes, assume the calculation is performed by a subroutine called CALC. What we do is obtain clock readings through ZA02AS, one just before we call CALC and then again when we return. By differencing the two readings we get the time taken in seconds, for example,

```
REAL TIME1, TIME2, ZA02AS, DUMMY, TIME  
EXTERNAL ZA02AS, CALC
```

```
TIME1=ZA02AS(DUMMY)
CALL CALC(.....)
TIME2=ZA02AS(DUMMY)
TIME=TIME2-TIME1
WRITE(*,*)' TIME TAKEN IS ',TIME
----
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```