Mineral Resources Tasmania

TASMANIA
DEVELOPMENT
AND RESOURCES

REPORT 1993/07

A FORTRAN program development environment for MS-DOS

by R. G. Richardson

Abstract

To assist program development using the Lahey FORTRAN compilers a series of batch files have been written to simplify compiling and linking.

INTRODUCTION

The Division of Mines is currently converting a number of FORTRAN programs from a Concurrent Computer Corporation minicomputer to personal computers using the Lahey F77L and F77L-EM/32 compilers. To simplify these conversions a suitable FORTRAN environment was developed.

The following DOS environment variables should be set in the AUTOEXEC.BAT files:

SPRT — the device to which compiler listings and link maps are written.

— suggested value NUL

FPRG — the filename of the FORTRAN source. The extension .FOR is added automatically.

— suggested value ++

FCMP — the language environment

— suggested value F77L.

Note that any changes to these environment variables are only valid in the current instance of the MS-DOS command interpreter. The directory containing the batch files should be included in the DOS PATH.

THE BATCH COMMANDS

(i) SYSPRT

Used to set the destination of the compiler listing and linker map.

e.g. — SYSPRT NUL sets the output to the null device

— SYSPRT FRED.LST sets the output to file FRED.LST in the current directory.

— SYSPRT displays the current setting.

The use of CON as a destination is not recommended.

(ii) FORT

Used to set the FORTRAN compiler to F77L and optionally to set the current source filename. If no compiler configuration file is present the configuration utility will automatically start.

e.g. — FORT set the compiler to F77L.

— FORT FNAME set the compiler to F77L and the current source to FNAME.FOR.

(iii) FORT32

Used in a similar manner to FORT to set the compiler to F77L-EM/32. The other functions are the same.

(iv) TEDIT

Start the line editor. This is a subset of the Concurrent Computer Corporation EDIT32 programme.

(v) COMPILE

Used to compile a source program and optionally to set the current filename. If no compiler configuration file is present the configuration utility will automatically start.

e.g. — COMPILE compiles the current source program.

— COMPILE FNAME compiles FNAME.FOR

(vi) LINK

Used to a previously compiled .OBJ file with the standard libraries.

e.g. — LINK links the .OBJ file from the current source program.

(vii) COMPLINK

Used to compile and link a source file.

e.g. — COMPLINK compiles and links the current source program.

— COMPLINK FNAME compiles and links FNAME.FOR.

(viii) ENV

Displays the current source program and compiler names.

[25 May 1993]