AT/25.1/035

The *XMNMP* Program

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1.0 Introduction

Part of the monitor point problem is to be able to examine the value of a monitor point wherever it may occur in the AT. Because the AT is a distributed computer system, this poses many problems. Other documents in this series (AT/25.1/033, AT/25.1/031, AT/25.1/023) have proposed ways of obtaining the values of the monitor points, on a regular basis, and making them available to the user in Synch in global common areas. This document describes a first pass implementation of a program (XMNMP) to examine the monitor points returned to Synch and the software monitor points of programs running in Synch.

This program uses the *Monitor Point Description* file which the program *EMPEE* generates to locate the monitor points in the global common areas. A simple command structure has been implemented to allow the user to define multiple display screens and to move between them. This program does not pretend to be the **AT STATUS program** which may include all or part of the functionality included in this program.

2.0 Design Criteria

The following features were thought to be desirable in a program of this nature:

1. To be able to add the monitor points of choice to any display.

2. To be able to choose whether a display is homogeneous (i.e. all of the monitor points belong to the same location) or heterogeneous (i.e. monitor points from different locations are displayed on the one screen).

3. To be able to save a particular display. By this is meant that the monitor points displayed on the screen and their position is saved in an external file.

4. To be able to restore a previously established display from an external file written out previously by this program.

5. To be able to display any screen previously established.

6. To be able to invoke a help facility.

3.0 The Commands

The commands implemented are the minimum that would provide the facilities which were considered to be desirable. Only the *show* command has an abbreviated form.

The following sections describe how the commands operate:

3.1 The *refresh* command

It is possible to refresh a display, i.e. to have the current display repainted by using the Ctrl-W key. This is particularly useful if a breakthrough message is sent to the display terminal.

3.2 The *screen cycle* commands

On those keyboards that have the *previous screen* and the *next screen* keys, it is possible to use them to cycle through the available displays. Only the screens that have been defined using the *create* command are displayed. When the first or the highest numbered screen defined is reached these commands wrap around either to the last or the first available screen respectively.

3.3 The *add* command

The *add* command is used to place the specified monitor point in the next available slot on the screen. The form of the command follows:

add [*location code*] *monitor point name*

where the *monitor point name* is the short form of the name. The [] indicate that the *location code* is not needed in every case. It is omitted if the display being built is homogeneous. It **must** be included if the display being built is a *MIXED* display.

3.4 The *create* command

The *create* command establishes an empty display screen. In the current version it is possible to have up to 20 displays. When the program starts the first empty display has been created and is being shown. Each new screen created has a unique number which is the number by which it is referred.

3.5 The *get* command

This command reads the external file specified and rebuilds the display saved in it. Before using this command, the *create* command must have been used to generate an empty display. The form of the command is:

get *filename*

where the extension is *.dat* by default.

3.6 The *help* command

The *help* command extracts most of this document and makes it available as on-line help. The form of the command is

help

3.7 The *save* command

This command saves the current display, i.e. the one that is active, in an external file. The form of the command is

save *filename*

The default extension for the file is *.dat*.

The file created preserves the following information: whether the display is homogeneous or *MIXED*; the monitor points currently displayed on the screen and the order in which they are displayed. Note that it is the monitor point name and location that is saved and not the value.

3.8 The *show* command

This command shows the screen number specified. The command has the form:

show *screen number*

An abbreviated form of this command exists. If a number, representing the *screen number* is entered on the line then that screen is showed. The form of the abbreviated command is

screen number

3.9 The *use* command

The *use* command defines whether the display will be homogeneous or heterogeneous as described previously. The command has the form:

use *location code*

where the *location code* is the code as given in the ATDBASE database to be the location of the monitor points to be displayed. This defines a homogeneous display. The *location code* is displayed with the display number and does not appear elsewhere on the screen. If the *location code* is set to *NONE*, then the display is heterogeneous. This is indicated by the word *MIXED* which appears where the *location code* would appear for a homogeneous display. The *location code* for each monitor point is displayed with the monitor point name for every point in the display.

If the display is homogeneous, then the *location code* does not have to be used with such commands as *add;* on the other hand, if the display is *MIXED*, then the *location code* must be used with the monitor point name when these commands are invoked.