MECAFF – tools for DIAG58

M**ultiline** E**xternal** C**onsole** A**nd** F**ullscreen** F**acility - Tools**

for VM/370 R6 SixPack 1.2

Installation Manual

Version 1.1.0

Dr. Hans-Walter Latz

WARNINGS:

This software is delivered as-is with no promise or commitment to be usable for any particular purpose.
Use it at your own risks!
The MECAFF software and documentation has been written by a hobbyist for hobbyists and should not be used for any important or even critical tasks.

MECAFF is work in progress and its current implementation may differ from this documentation.

Contents

1 Introduction

This document describes the installation of the MECAFF-tools for DIAG58 on a VM/370R6 with the DIAG58 modification installed.

2 Prerequisites

- The MECAFF-tools for DIAG58 require a VM/370R6 system with Bob Polmanter's Diagnose-58 modification installed (see the Files section of the H390-VM group).
- The version of the DIAG58 modification must be at least V1.05, as the MECAFF-tools require the WSF-Query functionality available since this version
- Newer versions of the DIAG58 modification are of course preferred to take advantage of the latest features and bug fixes.
- The correct function of the installed DIAG58 modification should be verified with the samples tools (TEST MODULE and SAMPIO MODULE) delivered with the modification

3 Files in the package

Unpacking the MECAFF-tools for DIAG58 ZIP-archive copies the following files to the current directory:

- `mecafftools-on-diag58-`*`version`*`.aws`
  → the AWS tape file in CMS TAPE format containing the MECAFF-tools linked against the memory resident GCCLIB (dynamically lined)
- `mecafftools-on-diag58static-`*`version`*`.aws`
  → the AWS tape file in CMS TAPE format containing the MECAFF-tools as statically linked MODULEs
- `mecaff_h58.aws`
  → the AWS tape file in CMS TAPE format containing the help files for MECAFF-tools
- `MECAFF-Tools-Manual-`*`version`*`.pdf`
  → the user manual for the MECAFF tools (common to the MECAFF-console and DIAG58 versions of the MECAFF tools)
- `MECAFF-Tools-for-DIAG58-Installation-`*`version`*`.pdf`
  → installation guide for the MECAFF-tools for DIAG58 (this file)
- `MECAFF-Tools-ReleaseNotes-`*`version`*`.pdf`
  → the release notes for the MECAFF tools (common to the MECAFF-console and DIAG58 versions of the MECAFF tools)
- `mecaff-cms-src-`*`version`*`.aws`
  → the CMS sources and build utilities for the MECAFF programs (both for the DIAG-58 and MECAFF-console based programs)
- `MECAFF-Tools-Manual-`*`version`*`.docx`
  `MECAFF-Tools-for-DIAG58-Installation-`*`version`*`.docx`
  `MECAFF-Tools-ReleaseNotes-`*`version`*`.docx`
  → MS-Word documents for the PDF-files

(with *`version`* currently being 1.1.0)

4 Installing the MECAFF tools

4.1 Loading the installation tapes

The MECAFF tools are delivered in the 2 variants *dynamically linked* or *statically linked* against the GCCLIB (GCC native CMS runtime). The MODULEs and support files for each variant are completely contained in a separate AWS files written with the CMS TAPE utility.

Deciding whether to install the statically linked MECAFF tools depends on the environment resp. the expected usage of the VM/370 system:

If:

- the MECAFF-tools are used with VM/370 R6 or VM/380 in a version older than SixPack 1.2
- or loading of the GCCLIB into resident memory is not enabled in the system-wide SYSPROF EXEC
- or any DOS-related programs is to be used under CMS

then:

the statically linked version of the MECAFF tools must be installed, as the dynamically linked tools will not work at all or will provoke ABENDs after using DOS-related programs.
The tape file to use is: `mecafftools-on-diag58`**`static`**`-`*`version`*`.aws`

else:

the dynamically linked version of the MECAFF tools can be installed.
The tape file to use is: `mecafftools-on-diag58-`*`version`*`.aws`

Installing the statically linked variant is possible in any case, as these programs will always work, however using more main memory in the VM than necessary if the memory resident GCCLIB is present (loaded into the main memory of the VM by the system profile) and usable (no DOS-related programs are used).
In case of doubt, the statically linked version of the MECAFF tools should be installed.

The MECAFF-tools files have the following content (here for the dynamically linked programs, the statically MODULEs and the SYNONYM file have the filename ending in 5S instead of *58*):

```
 EE58     MODULE   F2
 FSHELP58 MODULE   F2
 IND$FI58 MODULE   F2
 MECAFF58 SYNONYM  F2
 SAMPLE   EE       F2
 SYSPROF  EE       F2
 EBCDIC   MEMO     F2
 VISTA    IND$MAP  F2
tape-mark
 SYSPROFX EXEC     F2
tape-mark
 SYSPROF  EXEC     F2
tape-mark
tape-mark
```

The files up to the first tape-mark are the MECAFF tools and the support files to use them. The 2 files after the first tape-mark are intended to be installed if the synonyms are to be automatically registered for all users logging on.

To make the tools available to all users, disk Y (19E) the target for installing the MECAFF files.

To install a MECAFF tape on the Y disk:

- On the Hercules console enter:
  ```
  devinit 480 mecafftools-on-diag58-version.aws
  ```
  or:
  ```
  devinit 480 mecafftools-on-diag58static-version.aws
  ```
- Logon as MAINT
- Access the Y disk in R/W mode:
  ```
  release y
  access 19E y
  ```
- Attach the tape device and load the files to disk Y:
  ```
  attach 480 to maint 181
  tape load * * y
  ```
- Re-access disk Y in R/O mode:
  ```
  release y
  access 19E y/s
  ```

(the above commands also apply for loading the statically linked files from the tape `mecaff_s.aws` after installing the dynamically linked MECAFF files)

Users logging on after the files have been installed on disk Y will have access to the MECAFF tools. However, to be able to use them as described in the MECAFF-Tools-Manual, a post-installation procedure is necessary (see 4.2).

The file SAMPLE EE is a sample EE profile, which can be copied to PROFILE EE A and adapted to the own needs (see the MECAFF-Tools-Manual, sections *Configuration commands* and *Customizing*).

4.2 MECAFF -Tools post-installation options

To use the MECAFF-tools installed on disk Y, it is necessary to register the synonyms for the MODULEs loaded from the installation tape. This can be done individually by each user or for all users in the system profile.

4.2.1 Post-installation alternative: modify PROFILE EXEC

Each user wishing to use the MECAFF-tools has to extend the own PROFILE EXEC with one of the following commands:

```
synonym mecaff58 synonym *        (for the dynamically linked versions)
```

or

```
synonym mecaff5s synonym *        (for the statically linked versions)
```

4.2.2 Post-installation alternative: modify SYSPROF EXEC

The system-wide profile SYSPROF EXEC, which is always executed before the user's PROFILE EXEC, is only available since VM/370 R6 SixPack 1.2. The following post-installation alternative cannot be implemented for VM/370 prior to this version.

WARNINGS:

- Modifying the SYSPROF EXEC is a small system-modification, as the CMSSEG and CMS shared segments must be regenerated.
- Before doing this modification, it is advisable to backup the system (for example by backing up the Hercules shadow-files for the disk packs of the VM/370 installation).
- The following command sequences are based on the file SYSPROG MEMO of user MAINT under SixPack 1.2. The exact commands to use for other systems with a SYSPROF-like functionality may differ.

If the file SYSPROF EXEC S is in the original state as delivered with SixPack 1.2, the replacement SYSPROF EXEC provided in the MECAFF-tools installation tapes can be used. This modified SYSPROF EXEC was derived from the version delivered with SixPack 1.2 and invokes an SYSPROFX EXEC if one is found on the Y disk. This allows extending or modifying the functionality of the system profile without having to regenerate the CMS shared segments each time. The delivered SYSPROFX EXEC checks the existence of one of the synonym files for the MECAFF-tools on disk Y and registers it if found, with the static tool having priority if both synonym files are found (see Step 1a for the necessary commands, only needed on the *first* installation of the MECAFF tools).

If the file SYSPROF EXEC S has already been modified, the SYSPROF EXEC must be edited manually to add the SYNONYM command (see Step 1b for the necessary commands).

After setting up the system profile, the CMS shared segments have to be regenerated (see Step 2 for the necessary commands).

Adapting the system-wide SYSPROF EXEC can be done by the user MAINT with the following commands (only one of the steps 1a or 1b has to be executed, texts in italics are comments and are not to be entered):

Step 1a: install SYSPROFX EXEC Y and modified SYSPROF EXEC S from tape

On the Hercules console enter:

```
devinit 480 mecafftools-on-diag58-version.aws
```

or:

```
devinit 480 mecafftools-on-diag58static-version.aws
```

Logon as MAINT

Access the S and Y disks in R/W mode:

```
access 190 z          (access disk S in R/W mode, not possible via: acc 190 s)
release y
access 19E y
```

Attach the tape device and load the files to disk Y:

```
attach 480 to maint 181
tape scan             (skip the tools section of the tape)
tape load * * y       (load SYSPROFX EXEC to disk Y)
tape load * * z       (load SYSPROF EXEC to disk S)
```

Release R/W access to disk S:

```
release z
```

Step 1b: edit SYSPROF EXEC S

```
access 190 z          (access disk S in R/W mode, not possible via: acc 190 s)
ee58 sysprof exec z2  (attention: filemode must be Z2)
      (see 4.2.1 for the command to insert, alternatively use ee5s)
release z
```

Step 2: regenerate the CMSSEG and CMS shared segments

```
define storage 16m
ipl 190
access ( noprof
      (ignore the message: CMSSEG system name 'CMSSEG' not available.)
access 093 b
access 193 c
cmsxgen f00000 cmsseg
ipl 190
savesys cms
#cp logoff
```

5 Installing the MECAFF-tools CMS help files

The help files for the MECAFF tools for DIAG-58 are contained in the AWS tape file `mecaff_h58.aws` in CMS TAPE format. This tape contains the help files for the following items:

- Help files for the MECAFF CMS commands EE, FSLIST, FSVIEW, FSHELP;
  these are standard CMS help filetype HELPCMD supported by (CMS-)HELP and FSHELP
- Help files for EE subcommands and a top-level help topic for EE's internal help;
  these are non-standard help filetypes HELPEE and HELP_EE supported by FSHELP only

The help files must be installed on the U disk. To install the MECAFF help on the U disk:

- On the Hercules console enter:
  ```
  devinit 480 mecaff_h58.aws
  ```
- Logon as MAINT
- Access the U disk in R/W mode:
  ```
  release u
  access 19D u
  ```
- Attach the tape device and load the files to disk U:
  ```
  attach 480 to maint 181
  tape load * * u
  ```
- If the help menu for FSHELP (the MECAFF-Tools-Manual, section *FSHELP*) is to be made available globally to all users (instead of each user having an own menu file), this help topic can be supplied with:
  ```
  fshelp ( rebuild
  copy menu fshelp a2 = = u2
  ```
  (for this, the user MAINT must be able to use the MECAFF tools either by installing the statically linked tools or by activating the resident memory GCCLIB, see 4)
- Re-access disk U in R/O mode:
  ```
  release u
  access 19D u/s
  ```

6 Rebuilding the MECAFF-tools from source

Building the MECAFF-tools from source should be done on a VM/370 R6 SixPack 1.2 system. To rebuild the tools with the user CMSUSER, use the following steps:

- Logon as CMSUSER
- On the Hercules console enter:

```
devinit 480 mecaff-cms-src-version.aws
/attach 480 to cmsuser 181
```

- Access 192 (for example) as disk A:

```
access 192 a
access 192 d
```

- Load the sources from tape:

```
tape load
```

- Build the GCCCLIB components for static linking:

```
exec cmscomp
```

- Build the MECAFF common TEXT files:

```
exec fscomp
```

- Build the DIAG58 specific files and link the MECAFF-tools for DIAG58

```
exec fsbldx58
```

The modules generated are:

- MODULEs linked against the memory resident GCCLIB:

```
EE58      MODULE
FSHLP58   MODULE
IND$FI58 MODULE
```

- MODULEs linked against the static GCCLIB-components generated with CMSCOMP:

```
EE5S      MODULE
FSHLP5S   MODULE
IND$FI5S MODULE
```

The other files on the installation tapes are also part of the source tape.