doc/VMMInformer

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COLLABORATORS

	TITLE :		
	doc/VMMInformer		
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

doc/VMMInformer

1.1   doc/VMMInformer.guide

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                                         VMMInformer
             (Graphical statistics program for use with VMM)
                            User's Guide
                            Version 1.1
                      $Date:  95/08/29 20:41:56 $
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1.2   doc/NerveEX.guide/COPYRIGHT

0. COPYRIGHT and AUTHOR

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1.3   doc/VMMInformer.guide/INTRODUCTION

1. INTRODUCTION

I'm really fed up with writing manuals. This manual will be very
short.   VMMInformer is a utility which displays information about VMM
or the memory situation either as text or graphic. That's it.

VMMInformer requires VMM 2.1 or greater to be installed and running on
your system if you want to display information about VMM. Otherwise
it only shows 'VMM not dependent' information. VMM is a virtual
memory manager written by Martin Apel. VMM is available on AMINET and
several PD/Shareware Disks or CDs.

1.4   doc/VMMInformer.guide/INSTALLATION

                    2. INSTALLATION

VMMInformer requires at least OS2.04 to run. VMMInformer also
requires VMM 2.1 or greater to be installed to use all features of
VMMInformer.

Execute the following steps to install VMMInformer:

- Copy

                VMMInformer
                 to your preferred path for utilities.
- Copy VMMInformer.prefs to ENVARC: or generate your own preferences file.

Now change the preferences file at will.

I added three example preferences files to this archive in the prefs
directory. Use these preferences files to get a first impression
about the possibilities of VMMInformer.
VMMInformer tries to read the file specified as argument in the
command line first. If you didn't specify a prefs-file it will try to
read ENV:VMMInformer.prefs and after that ENVARC:VMMInformer.prefs.

See

                Prefs-File syntax
                 for more details on that.

1.5 doc/VMMInformer.guide/VMMINFORMER

                3. VMMINFORMER

There is not much to explain about VMMInformer:

   TEMPLATE: VMMInformer [prefs-file]

The VMMInformer display shows the strings with the selected variables
mixed with the graphical display. If you have defined any graphics
you can change the size of the window with the sizing-gadget,
otherwise there is no sizing-gadget visible.

See

                Prefs-File syntax
                 for more details on that.

1.6 doc/VMMInformer.guide/PREFS_SYNTAX

                4. PREFERENCES FILE - SYNTAX

IMPORTANT: DON'T edit the first line in the preferences file.
IMPORTANT: The declaration blocks must be defined in the following
         order: 1. "TASK/WINDOW/DEFAULT"
                 2. "VARIABLES"
                 3. "DISPLAY"

```
IMPORTANT: The syntax of the preferences file will be checked
           but not all errors will be recognized by the parser.
```

Description of the preferences file syntax.

If you are not able to follow my descriptions please take a look at
the example preferences files. Expecially "VMMInformer.crazy" will
help you understanding the preferences file syntax. If you have
problems with a special idea feel free to contact me and i try to help
you.

"//" starts a comment line

```
<BYTE>     :
<UBYTE>    :
<UWORD>    :
<ULONG>    :
<BOOLEAN>  : "TRUE" oder "FALSE"
<STRING>   : Must be enclosed by quotes. I.e.: "test test test"
             The string must be entered in printf-style format. A
             maximum of 6 variables is allowed. In normal text strings
             only one variable is allowed.

<VAR>      : One of the variables defined below (except d).
<FUNCTION> : For the definition of functions you must use RPN-format.
             You can use the following variables for your calculations:

             a) Variables defined in the VMStat-structure:
                - VMSize       : Size of virtual memory
                - VMFree       : Size of free virtual memory
                - Faults       : Page faults up until now
                - PagesWritten : Pages written up until now
                - PagesRead    : Pages read up until now
                - NumFrames    : Actual no. of used frames
                - PagesUsed    : Pages used on device
                - PageSize     : Pagesize
                - TrapStructsFree: No. of free TrapStructs

                See "VMM.guide" for more details.

             b) 4 more variables concerning free memory and the time:

                - PUBLIC_FAST_Free: Free PUBLIC FAST memory
                - CHIP_Free      : Free CHIP memory
                - CurrentSeconds : Current time (seconds)
                - CurrentMicros  : Current time (micros)

             c) All key variables:
                Only SECONDS and MICROS may be of interest. (see below)

             d) Constants: i.e. 1, 45, 100000, ...  (no negative values)

             e) All "ARRAY"-variables defined.
```

```
              f) All variables defined with "DEFINE" (functions).

                 IMPORTANT: variables in e) and f) must be defined
                            before they are used!!!

              SYNTAX of functions:

              IMPORTANT: Only   ULONG   variables   are   used   for
                         calculations.  In  complex  calculations round
                         off  errors  can occur.  This doesn't mean your
                         processor   is   faulty  (INTEL  outside).   ALL
                         variables are stored as ULONG integers.

              All functions MUST be entered in RPN-format!

              The following operators are allowed: +, -, *, /, %

              Examples:
                i)   Size of free virtual memory:
                     - DEFINE VMUsed = VMSize VMFree -

                ii)  No. of pagefaults during an update cycle:
                     - ARRAYFaults = Faults
                     - DEFINE Faults_per_update = ARRAYFaults(0) ARRAYFaults(-1) -

                iii) No. of faults during 1 second:
                     - SECONDS = 20
                     - MICROS  = 500000
                     - ARRAYFaults = Faults
                     - DEFINE Update_Micros = SECONDS 1000000 * MICROS +
                     - DEFINE Faults_per_update = ARRAYFaults(-1) ARRAYFaults(0) -
                     - DEFINE Faults_per_second = Faults_per_update 1000000 *  ↵
                        Update_Micros /


--> START OF PREFERENCES FILE
**********************************************************************
"BEGIN  TASK/WINDOW/DEFAULT"  starts  the  definition  of the task and
                             window specific variables.

"VERSION = <UBYTE>"   Version of preferences file format.   DON'T EDIT
"REVISION = <UBYTE>"  Revision of preferences file format.  DON'T EDIT

"PRIORITY = <BYTE>"  Priority of VMMInformer task (-128 bis 127).

"LEFT = <UWORD>"      Left edge of window.
"TOP  = <UWORD>"      Right edge of window.
"WIDTH  = <UWORD>"    Width of window.
                      (The height depends on the font and the
                       contents of the window.)

"ZOOMED = <BOOL>"         Open window zoomed (TRUE) or unzoomed (FALSE).
"ZOOMED_LEFT = <UWORD>"   Left edge of the zoomed window.
"ZOOMED_TOP  = <UWORD>"   Right edge of the zoomed window.

"BACKFILLCOLOR = <UBYTE>"  Background color (pen no.)
"PANELCOLOR    = <UBYTE>"  Panel color      (pen no.)
```

```
"TEXTCOLOR     = <UBYTE>"  Text color         (pen no.)


"AUTOSCALE = <BOOLEAN>" TRUE  enables autoscale option.
                       FALSE disables autoscale option.
                        (see "EXCEED_COLOR").


"SHIFT  =  <UWORD>"  Shift the graphic <SHIFT> pixels to the left when
                    the right window border is reached.


"COLOR        = <UBYTE>" Default color for the graphical display. (pen no.)
"EXCEED_COLOR = <UBYTE>" Color which is used to mark that the value
                        exceeds the graphical display.


"SECONDS = <ULONG>"
"MICROS  = <ULONG>" Update the window every x seconds and y micros.


"END" ends this definition.

***********************************************************************
"BEGIN VARIABLES" starts the declaration of the variables.

"ARRAY<ident>  = <VAR>" Declaration  of  a  variable which can be used in
                       calculations  later.  All values of this variable
                       are stored in an array.  (Up to the actual screen
                       size).   <ident>  is  the  name of this variable.
                       The  name  must follow directly after the keyword
                       "ARRAY".
                       I. e.: "ARRAY0", "ARRAYVMFree", "ARRAYStarTrek", ...

                       Alphanumeric  and numeric characters are allowed.
                       You can access the last value stored in the array
                       as follows:
                        - ARRAY<ident>(-1)
                       The  value  in  parentheses  can  be  between the
                       current screen width - 1 and 0 (a negative number).



"DEFINE  <var> = <FUNCTION>" This defines a new variable which will be
                       recalculated  every  update  cycle.  <var>
                       is  the name of this variable.  After you
                       have defined this variable you can access
                       it  in  the  following calculations.  You
                       can't  access  a  variable  which has not
                       been  defined  before  it is used for the
                       first time.
"END" ends this declaration.

***********************************************************************
"BEGIN DISPLAY" starts the definition of strings and graphics.

"
               TITLE
                = <STRING>[, <VAR>[, <VAR>]...]"     Window title
"
               ZOOMTITLE
                = <STRING>[, <VAR>[, <VAR>]...]" Window title in zoomed state.
```

```
"
                TEXT
                 =  <STRING>[, <VAR>]" Strings defined in this way are displayed
                             in   the   window   in   order   of   their
                             definition.  <STRING> is the string to be
                             displayed  in the window and <VAR> is the
                             linked variable. <VAR> is optional.


"
                GRAPHIC
                 = <var> [, [<height>], [[<pen>], [[<autoscale>], [[<scale_factor ↩
                   >], [[<bars>]]]]]]"
   "var"        = <VAR>     defines which variable is displayed as graphic.
   "height"     = <ULONG>   overrides the default height
   "pen"        = <UBYTE>   overrides the default pen number.
   "autoscale"  = <BOOLEAN> overrides the default AUTOSCALE option.
   "scale_size" = <ULONG>   value, in which distance the graphic is scaled
   "bars"       = <BOOLEAN> enables scalebars (TRUE) or disables them (FALSE)

   These variables are always only in reference to the actual defined
   graphic.

"BAR = <UBYTE>" color (pen no.)

"END" ends this definition.

************************************************************************
--> END OF PREFERENCES FILE
```

1.7 doc/VMMInformer.guide/ERROR_LIST

```
5. ERROR LIST

************************************************************************
Possible errors during preferences file parsing:

Error no.:      Description:

    1           out of memory
    2           couldn't open config file
    3           SYNTAX error
    4           undefined identifier or use out of BEGIN ... END
    5           argument missing
    6           ULONG argument missing: ULONG required
    7           BOOLEAN argument missing: "TRUE" or "FALSE" required
    8           quote mark missing
    9           invalid argument
    10          DAU, total memory failure in 2 minutes ;-)
    11          "ARRAY" is not a valid variable name
    12          invalid use of variable
    13          variable name not found
    14          invalid array offset
    15          no graphic defined
```

```
   16          wrong version of preferences file
**********************************************************************
```

1.8 doc/VMMInformer.guide/KNOWN_BUGS

6. KNOWN BUGS

If you find any bugs please mail them to me.

If VMM isn't able to start correctly for some reason, VMMInformer may
hang.   This is not an error but is due to VMMInformer waiting for a
response from VMM which isn't able to respond.

1.9 doc/VMMInformer.guide/HISTORY

7. HISTORY

Version 1.1 :
 - Changed the preferences file syntax
   (see convert.readme for more details)
 - Changed VMMInformer to work without VMM running.
 - Added two new variables for use with the graphical display
     a) "scale_size"
     b) "bars"
 - Text and graphical displays can be mixed together
 - Added a color configurable bar to seperate the output
 - Fixed a bug which caused VMMInformer to open the window always at
   the zoomed position
 - Fixed a bug which caused VMMInformer to clear the screen title while
   VMMInformer window is the active one
 - Minor bug fixes and changes

Version 1.0 : First release

1.10 doc/VMMInformer.guide/PLANS

8. FUTURE PLANS

- Integrate CPULoad in VMMInformer
-

1.11 doc/VMMInformer.guide/ACKNOWLEDGMENTS

9. ACKNOWLEDGMENTS

I would like to thank Martin Apel for providing me with ideas and
helping me with problems.

1.12   example_graphic

Example about GRAPHIC

GRAPHIC = CPULoad, 30, 5, TRUE, 10, TRUE

(Overrides default height, pen color and autoscale modus. Sets
 the scale_size to 10 and enables the scale bars)

or

GRAPHIC = CHIP_Free,, 5   (overrides default pen color)

Don't forget the commas if you only want to change the second or third
attribute without touching the first or second one.

1.13   example_text

Example about TEXT

TEXT = "Chip memory free:", CHIP_Free
TEXT = "Fast memory free:", PUBLIC_FAST_Free

1.14   example_title

Example about TITLE

TITLE = "VMMInformer %1.1ld.%1.1ld", VERSION, REVISION

or

ZOOMTITLE = "VM: %5ld K, Chip: %4ld K, Fast: %5ld K %2.2ld:%2.2ld:%2.2ld", ↩
    VMFreeK, CHIP_FreeK, PUBLIC_FAST_FreeK, Hours, Minutes, Seconds

VMFreeK, CHIP_FreeK, PUBLIC_FAST_FreeK, Hours, Minutes, Seconds are user defined ↩
    variables.