User Interface

Last updated by | Diana Baila < Diana.Baila@trw.com > | Tue, 18 Aug 2020 07:25:09 GMT

A. Splash Screen

- MapFileAnalyzer logo
- Loading bar - use a progress bar
- Text boxes for progress:

1. Parsing input files
2. Processing data
3. Creating view

B. Error Form

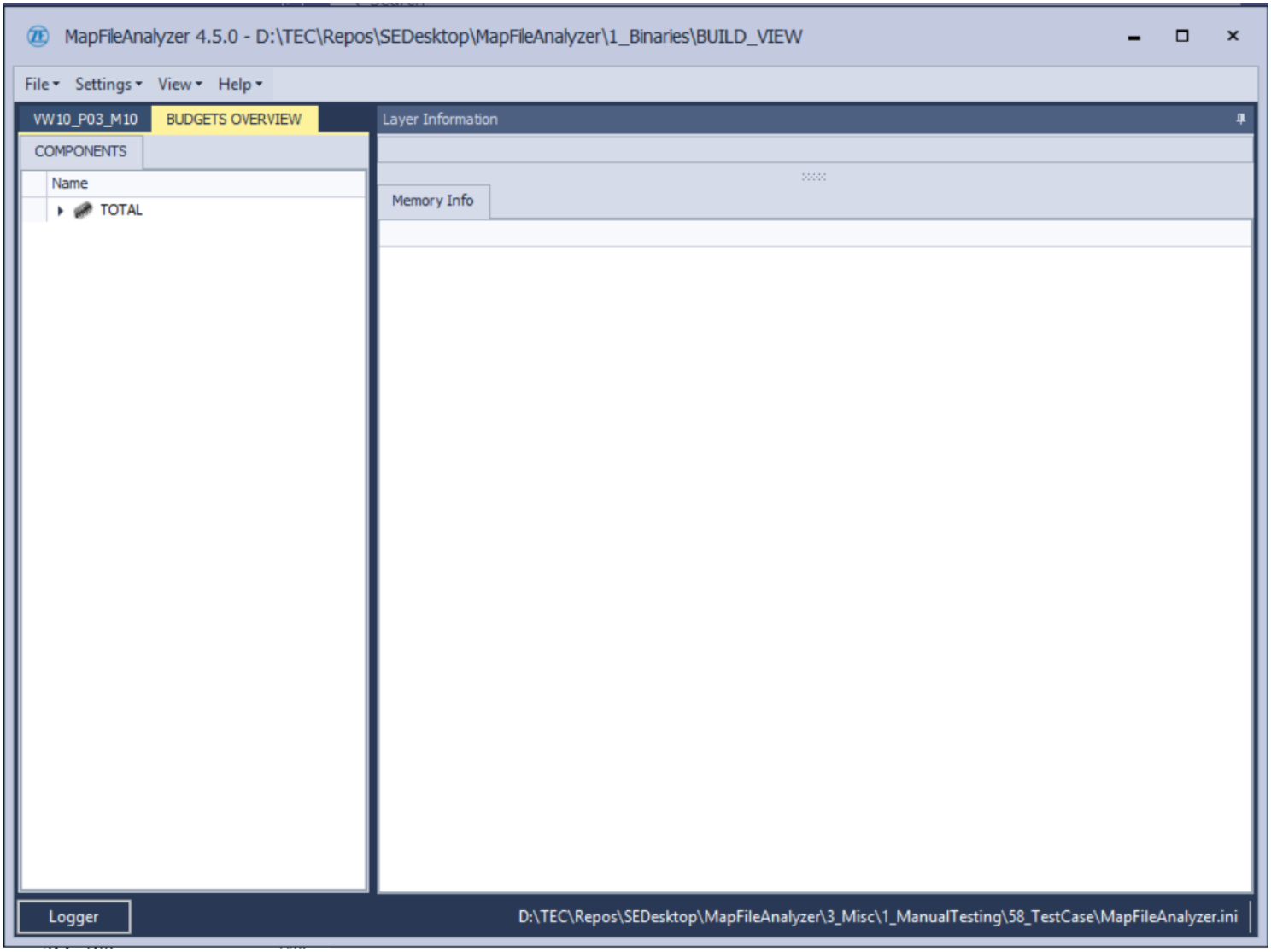
- an error form should appear for parsing errors (incomplete information, unavailable files etc) or processing data erors. Summary of error and and a message for checking the logger for more details should be shown in the error form.

C. About Form

- a form that has the logo, tool version, ZF copyright and ZF logo and a short description of the tool.

D. Main Form

The following image presents the current configuration of the tool.



1. Title Bar

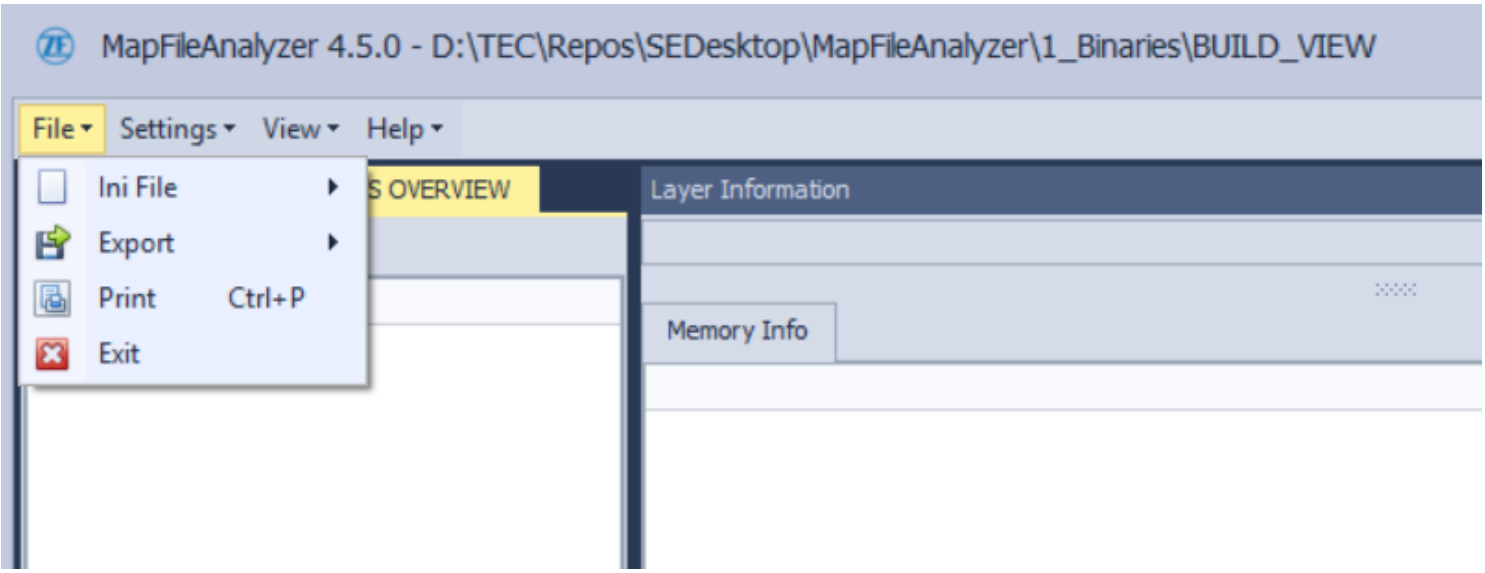
- ZF logo
- Tool name (MapFileAnalyzer)
- Tool version (automaticaly updated from AssemblyInfo)
- Path to the folder where the tool started

2. Status Bar

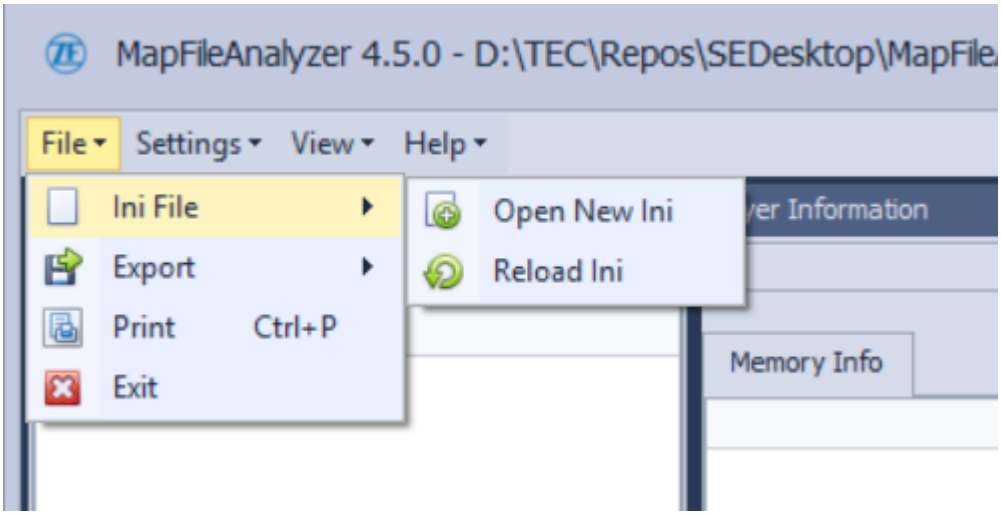
- path to the MapFileAnalyzer.ini file used
- logger button

3. Menu Bar

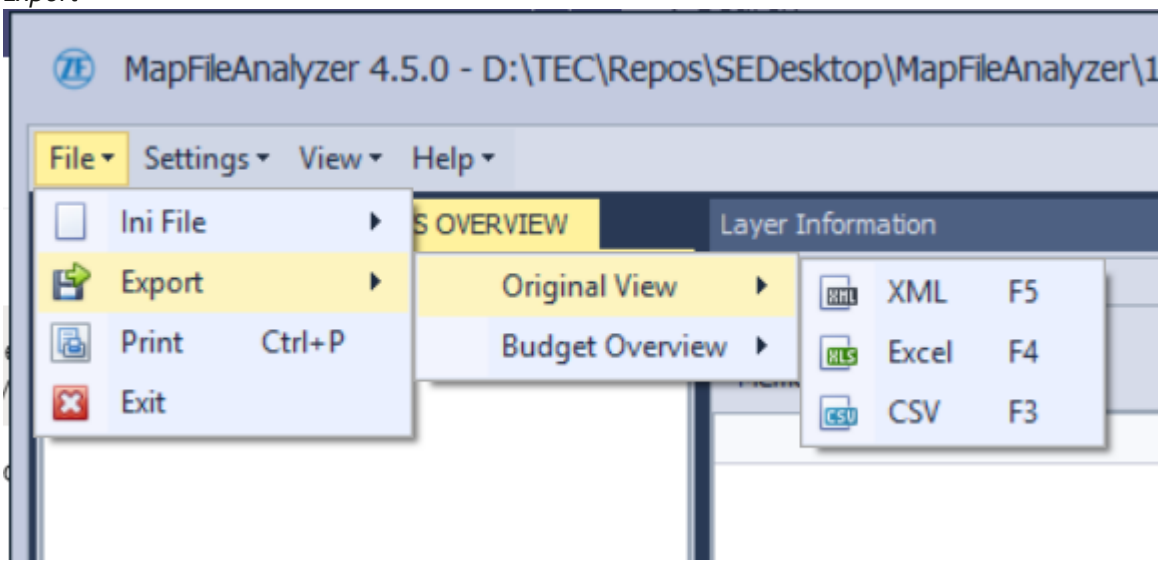
A. File



- *IniFile*
  A. Open New Ini
  B. Reload Ini



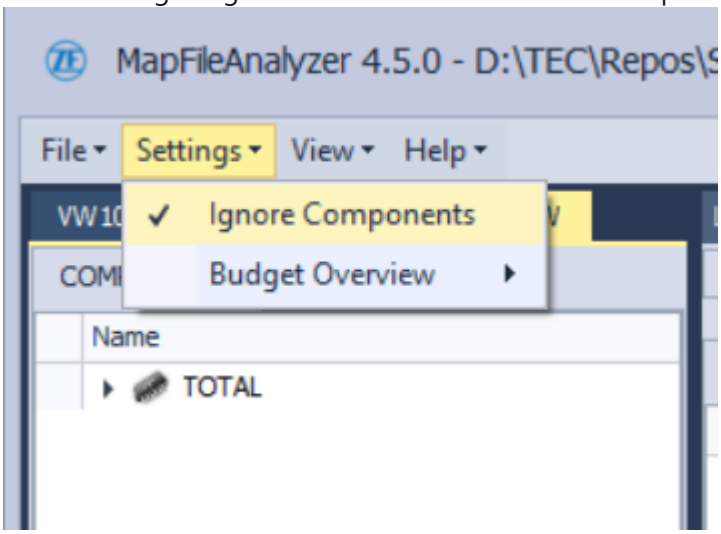
- *Export*



  A. Original View
  - XML F5
  - Excel F4

- CSV F3
  B. Budget Overview
- Excel (F6 - shortcut to export)
  C. Memory Partitions View
- Excel (F8)

- *Print*
  The button enables a print preview and the user can print the content of the data table displayed in the Memory Info panel.
  Keyboard shortcut ctrl+P should be available.
- *Exit*
  Exit button. Saves the current UI configuration of the tool. If the user changes the order of the panels, the size of the windows etc, the next time he opens MapFileAnalyzer.exe his own configuration will be displayed.
  B. Settings
  The following image does not include all the buttons presented below.



  Menu Bar Item with 3 sub items/buttons:
- *Ignore Components* - check box
- *Budget Overview* - menu item with the following 3 sub-items. Multiple sub items cannot be checked simultaneously.
  A. Original View
  B. Budget Overview Only
  C. Original View and Budget Overview
- Memory Partitions - check box
  C. View
  One item named **Restore to default view**. When checked by the user, all the tabs and pages come to the original form.
  D. Help
  Menu item with two sub items:
- About - when clicked the About Form is being opened.
- Help - when clicked a help file is being opened.

IMPORTANT When an operation is being performed (Open New Ini, Reload Ini, Exports, Ignore Components, Budget Overview, Memory Partitions), all the other buttons should be disabled. The user should not be allowed to perform multiple operations at the same time.

4. Left panel

A. Dynamically generated **tabs** based on keys read from the ini file. The tabs will have the names set according to the value read.

For ease of implementation, read one key that can have the following values: NoViews, OriginalView, BudgetOverview, OriginalViewAndBudgetOverview, OriginalViewAndMemoryPartitions, All3Views.

- [ ] No Views - No view will be displayed (No tab created)
- [ ] Original View - One tab with multiple, dynamically generated sub tabs.
- [ ] Budget Overview - One tab with one sub tab named COMPONENTS
- [ ] Memory Partitions - One tab (named Partitions Overview) with one sub tab named Memory Partitions

IMPORTANT! All the composed key-words represent the number and type of tabs that must be generated.

- Each tab must have a tree list with the structure previously implemented (A total node with the list of subsystems, files, sections).
- The TOTAL node has an UNDEF child as well (data type: Undef)
- Each node in the tree should have an icon based on the type of the element displayed.
- The Tree list does not display the sections.
- The tree list's content is not editable by the user
- The user should be able to resize the tabs and move/drag&drop them.
- The number of tabs can be dynamically changed when the user performs one of the following menu operations: Open New Ini, Reload Ini, Budget Overview, Memory Partitions.

5. Right panel

A. Text box - shows the full name of the node selected in the tree list (in the left panel)
B. Data Table - shows information about the node.

Data Table Structure for each data type

COLUMNS
Subsystem:

- Name (name of every subsystem/file in its lists)
- ROM
- RAM
- Undefined
- Rom Usage % ((Double, Infinity, NaN, NotApplicable)
- Ram Usage % (Double, Infinity, NaN, NotApplicable)
- ROM_BUDGET
- RAM_BUDGET
- ROM_SIZE
- RAM_SIZE

File:
If the selected file has a list of files, the data table has the same columns as a subsystem.
If the selected file only has a list of sections, the data table has the following columns:

- Name (Selected file's name)
- Section name
- Origin (hex address of the section)
- ROM
- RAM
- Undefined

ROWS
The first row is a TOTAL row. It shows the memory information of the selected node in the tree list, but instead of the node's name in the Name column appears TOTAL.

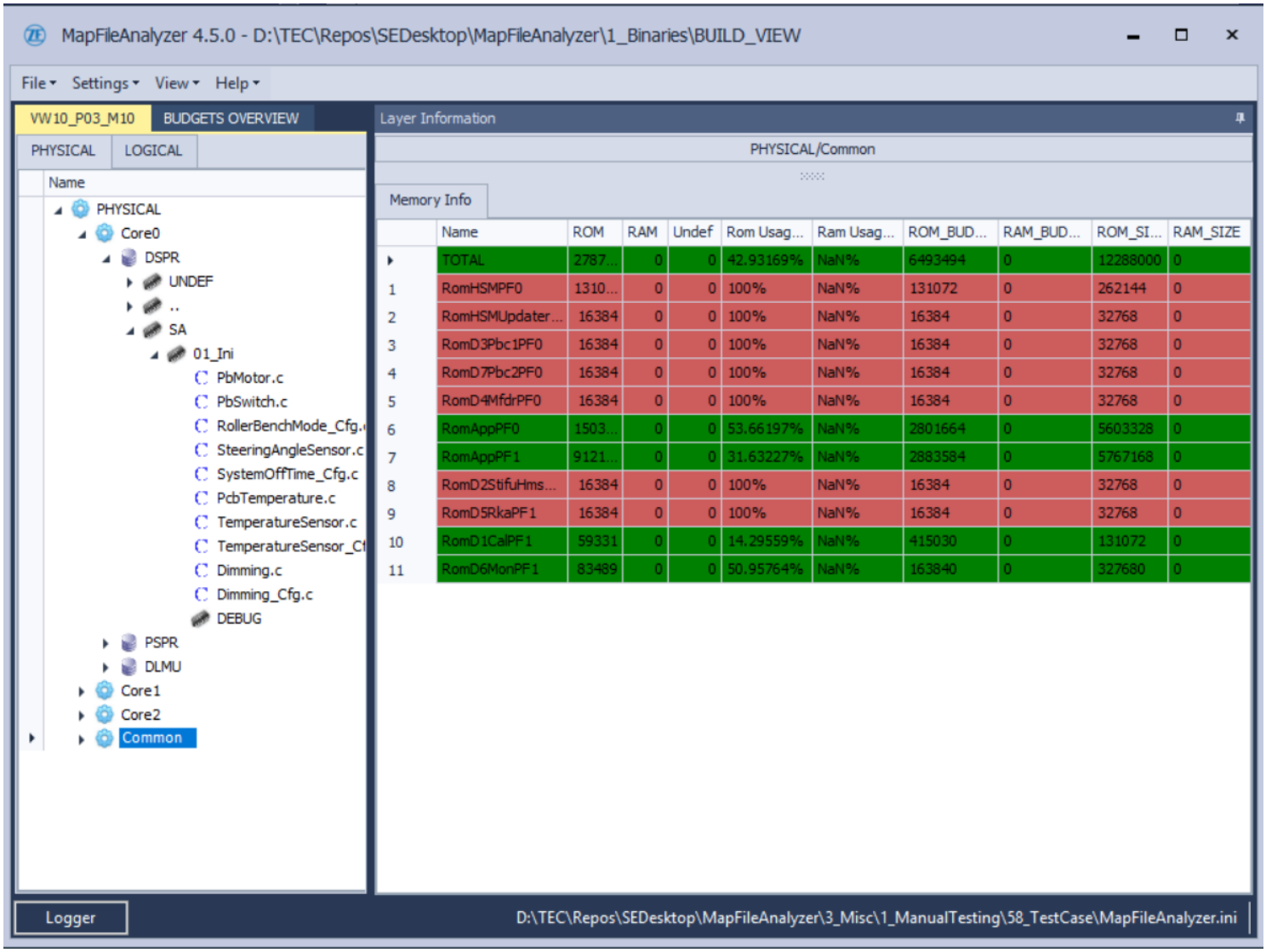
Data table features

- The default value for the memory consumption attributes for each element is -1. The data table does not display this value. Not Applicable (N/A) is shown.
- The values in the data table are not editable by the user.
- The user can sort the data table based on columns (if string alphabetically, else by values. Both ascending and descending). In this case, the TOTAL row should always keep its position as the first.
- A column for numbering should be included (grid view feature).
- The user is able to copy the values from the data table and paste them in another file. The user can copy one or more cells (in this case, at paste the header of the data table should not be pasted) or the entire table (the selection can be done manually using the mouse or by pressing ctrl+A in the keyboard). Selection should highlight the cells, but it should not modify the colors of the cells.
- The copy functionality is available both at ctrl+C or right click, Copy.

Data Table Coloring

Based on the values in the Rom Usage% and Ram Usage% the entire row will be colored as follows:

- [ ] if any of the values is Infinity - **RED**
- [ ] if **any** of the values is greater than 100 - **RED**
- [ ] if one of them is between a threshold (read from file) and 100 - **ORANGE**
- [ ] if one is lower than the threshold value - **GREEN**
- [ ] NotApplicable or NaN - no color.


MapFileAnalyzer 4.5.0 - D:\TEC\Repos\SEDesktop\MapFileAnalyzer\1_Binaries\BUILD_VIEW
File
Settings
View
Help
VW10_P03_M10
BUDGETS OVERVIEW
PHYSICAL
LOGICAL
Name
PHYSICAL
Core0
DSPR
UNDEF
..
SA
01_Ini
PbMotor.c
PbSwitch.c
RollerBenchMode_Cfg.
SteeringAngleSensor.c
SystemOffTime_Cfg.c
PcbTemperature.c
TemperatureSensor.c
TemperatureSensor_Cf
Dimming.c
Dimming_Cfg.c
DEBUG
PSPR
DLMU
Core1
Core2
Common
Layer Information
PHYSICAL/Common
Memory Info
Name ROM RAM Undef Rom Usag... Ram Usag... ROM_BUD... RAM_BUD... ROM_SI... RAM_SIZE
TOTAL 2787... 0 0 42.93169% NaN% 6493494 0 12288000 0
1 RomHSMPF0 1310... 0 0 100% NaN% 131072 0 262144 0
2 RomHSMUpdater... 16384 0 0 100% NaN% 16384 0 32768 0
3 RomD3Pbc1PF0 16384 0 0 100% NaN% 16384 0 32768 0
4 RomD7Pbc2PF0 16384 0 0 100% NaN% 16384 0 32768 0
5 RomD4MfdrPF0 16384 0 0 100% NaN% 16384 0 32768 0
6 RomAppPF0 1503... 0 0 53.66197% NaN% 2801664 0 5603328 0
7 RomAppPF1 9121... 0 0 31.63227% NaN% 2883584 0 5767168 0
8 RomD2StifuHms... 16384 0 0 100% NaN% 16384 0 32768 0
9 RomD5RkaPF1 16384 0 0 100% NaN% 16384 0 32768 0
10 RomD1CalPF1 59331 0 0 14.29559% NaN% 415030 0 131072 0
11 RomD6MonPF1 83489 0 0 50.95764% NaN% 163840 0 327680 0
Logger
D:\TEC\Repos\SEDesktop\MapFileAnalyzer\3_Misc\1_ManualTesting\58_TestCase\MapFileAnalyzer.ini

6. Logger