NAME

mptrace − displays tracing information produced by the mpatrol library

SYNOPSIS

mptrace [*options*] [*file*]

DESCRIPTION

The **mptrace** command is a tool designed to read a tracing output file produced by the mpatrol library and display the tracing information that was obtained. The tracing information is a concise encoded trace of all of the memory allocation events that occurred during a program's execution, and can be decoded into tabular or graphical form, along with any relevant statistics that can be calculated.

When the **TRACE** option is used with the mpatrol library, statistics for all dynamic memory allocations and deallocations are written to a tracing output file. The name of this file can be changed with the **TRACEFILE** option.

Only allocations and deallocations are recorded, with each reallocation being treated as a deallocation immediately followed by an allocation. The intention of tracing is to gather concise details about each memory allocation event rather than complete information about some or all memory allocations. As a result, the mpatrol log files and profiling output files contain more detailed information about individual memory allocations, whereas the tracing output files contain a broader view of allocation behaviour throughout the entire program.

The *file* argument must be a valid mpatrol tracing output filename but if *file* is omitted then **mptrace** will use *mpatrol.trace* as the name of the tracing output file to use. If *file* is given as − then the standard input file stream will be used as the tracing output file.

The **mptrace** command will normally be built with GUI support on UNIX platforms that are running X Windows. This means that a graphical memory map display of the heap will be shown in a window every time **mptrace** is run. This display is updated every time a new event is read from the tracing output file and by default uses the colour red for internal heap memory (used by the mpatrol library), blue for unallocated heap memory, black for allocated memory and white for free memory. Options exist to change this colour scheme, as well as the dimensions of the drawing area and the window.

By default, it is assumed that the start address of the first event that appears in the tracing output file is the base address of the memory map displayed in the window. If the heap grows downwards then this assumption will be incorrect (since nothing will be displayed) and so the −−**base** option must be used to specify a reasonable lower bound for the final memory map. In addition, the visible address space displayed in the memory map is fixed to a certain size (4 megabytes by default), but this can be changed with the −−**space** option. A small delay can also be added after drawing each memory allocation event through the use of the −−**delay** option.

Note that any options that are specific to the GUI version of **mptrace** are read by the X command line parser rather than directly by **mptrace**. As a result they are parsed according to X toolkit rules and do not appear in the quick-reference option summary produced by the −−**help** option. The application class for setting **mptrace** X resources is called *MPTrace*.

The idea for graphically displaying a memory map of the heap comes from the **xmem** tool supplied with the University of Toronto Computer Systems Research Institute malloc library, written by Mark Moraes. However, the documentation for that tool remarks that it was written as a quick and dirty hack. The **mptrace** command is hopefully more stable and contains a lot more functionality.

OPTIONS

−−**help** [−**h**]

Displays a quick-reference option summary.

−−**version** [−**V**]

Displays the version number of the **mptrace** command.

GUI OPTIONS

−−**alloc** *colour*

Specifies the colour to use for displaying allocated memory. The default colour is *black*.

−−**base** *address*

Specifies the base address of the visible address space displayed in the memory map. The default address is calculated at run-time from the start address of the first memory allocation event in the tracing output file.

−−**delay** *length*

Specifies that a small delay of a certain length should be added after drawing each memory allocation event. The delay does not correspond to a specific unit of time, but experimentation with the length should yield satisfactory results. The default delay is *0*.

−−**free** *colour*

Specifies the colour to use for displaying free memory. The default colour is *white*.

−−**height** *size*

Specifies the height (in pixels) of the drawing area. The default height is *512*.

−−**internal** *colour*

Specifies the colour to use for displaying internal heap memory. The default colour is *red*.

−−**space** *size*

Specifies the size (in megabytes) of the visible address space displayed in the memory map. The default size is *4*.

−−**unalloc** *colour*

Specifies the colour to use for displaying unallocated heap memory. The default colour is *blue*.

−−**view−height** *size*

Specifies the height (in pixels) of the window. The default height is *256*.

−−**view−width** *size*

Specifies the width (in pixels) of the window. The default width is *256*.

−−**width** *size*

Specifies the width (in pixels) of the drawing area. The default width is *512*.

SEE ALSO

mpatrol(1), **mprof**(1), **mleak**(1), **mpsym**(1), **mpedit**(1), **hexwords**(1), **X**(1), **libmpatrol**(3), **libmpalloc**(3).

The mpatrol manual and reference card.

http://www.cbmamiga.demon.co.uk/mpatrol/

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