DOSTrace

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Chapter 1

DOSTrace

1.1 DOSTrace Guide 2.13 Copyright © 1993 P. Stuer

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Welcome to the DOSTrace AmigaGuide®. Select any of the following

topics and follow the links to other subjects as you please:

1.2 About AmigaGuide

Contents - Display the Table of Contents document for the current database.

Index - Display the index document for the current database.

Help - Display the help document for the current database. If the

database doesn't have a Help document of its own, then the

global Help database will be used instead.

Retrace - Go back to the previous node.

Browse - Step through the documents in sequential order, in the order

they appear in the database.

1.3 Introduction

DOSTrace is a program that allows you to monitor what

AmigaDOS is doing while you are working with your Amiga. You can

watch which files your programs use, if they find all the files

they require, where they are looking for them and much other

activity of that kind.

If this sounds familiar to you, you must be one of the many

SnoopDos users in the Amiga community. This tool was written to

replace SnoopDos. It shows you a lot more information than

SnoopDos and it does this in a verbose way. SnoopDos is written

by Eddy Carroll and freely distributable.

1.4 Features

DOSTrace monitors a lot more AmigaDOS activity than

SnoopDOS. Currently the following functions can be monitored:

AddBuffers LoadSeg (InternalLoadSeg, NewLoadSeg)

Close Lock

CreateDir MakeLink

CurrentDir Open

DeleteFile ParentDir

DeviceProc Read

ExAll Rename

Examine SetComment

ExamineFH SetOwner

Execute StartNotify

FRead SystemTagList

FWrite UnLock

GetDeviceProc Write

Info

You can specify which functions DOSTrace should monitor.

DOSTrace saves the trace information it gathers as session

history. It provides a scrollbar which enables you to scroll

through the session history .

DOSTrace is also a commodity . You can specify a hotkey to show

or hide the output window.

DOSTrace can open on any public screen .

DOSTrace can trace a single task specified by the user.

1.5   System Requirements

DOSTrace should run on any Amiga system with at least 512K

RAM and one disk-drive. DOSTrace requires KickStart v2.04 or

higher to run. Special care has been taken in the program design

to make the program work with 68020, 68030 and 68040 processors

without sacrificing 68000 compatibility.

DOSTrace also requires the ReqTools.library v38 or higher.

ReqTools is copyright © 1992, 1993 by Nico François.

DOSTrace is KickStart 3.0 compatible and aware. It will show you

some of the new features available with this version of the

operating system.

Should you have any trouble running DOSTrace on your machine,

please contact me with the full specifications of your machine,

that is KickStart version, model, expansion boards etc...

1.6   Using DOSTrace

You can be start DOSTrace from the CLI/Shell or the

Workbench. DOSTrace will always check to make sure it is not

already running. If so, the copy of DT that is already running

will be notified and its window will open or come to the front.

The second copy will exit quietly.

Starting DOSTrace from the Shell

Shell Startup Options

Starting DOSTrace from the Workbench

Workbench Startup Options

Stopping DOSTrace

Project menu

1.7   Starting DOSTrace from the Shell

To start DOSTrace from the Shell simply type:

1> DOSTrace

followed by a return. If you want to continue using the Shell

while DOSTrace is running, you need to prepend the Run command

before DOSTrace as follows:

1> run DOSTrace

If DOSTrace is succesful in initializing itself, you see the

DOSTrace window and will start monitoring AmigaDOS.

1.8   Shell Startup Options

DOSTrace can be started with various options. If you run

DOSTrace with a questionmark (?) as argument you'll get the

argument template.

HISTORY /N/K, OUTPUT /K, LEFT /N/K, TOP /N/K, WIDTH /N/K, HEIGHT /N/K,

SCREEN /K, TRACE /K, DONTTRACE /K, TASK /K, CX_PRIORITY /N/K,

CX_POPKEY /K, CX_POPUP /K, CX_ACTIVE /K

1.9   Shell Startup Options: HISTORY

HISTORY

This option tells DOSTrace how many lines of history it should

keep. Use 0 to disable the history feature. The default number

of history lines is 256.

1.10   Shell Startup Options: OUTPUT

OUTPUT

With this option you can direct the trace information to some

other AmigaDOS device of file in addition or in place of the

information being displayed in the window.

If you have a debugging terminal attached to the serial port

you could use 'DOSTrace OUTPUT=AUX:' to have all trace

information appear at the terminal.

A special symbol is DEBUG. 'OUTPUT=DEBUG' will output all

trace information to the serial port at 9600 baud.

1.11   Shell Startup Options: LEFT, TOP, WIDTH and HEIGHT

LEFT

This option specifies the left position of the DOSTrace output

window in pixels. By default, the leftedge will be zero (0).

TOP

This option specifies the top position of the DOSTrace output

window in pixels. By default, DOSTrace will open its window 1

pixel under the screen title bar.

WIDTH

This option specifies the width of the DOSTrace output window

in pixels. By default, DOSTrace will open a window that is as

wide as the visible width of the public screen it is appearing

on.

HEIGHT

This option specifies the height of the DOSTrace output window

in screen lines. By default, DOSTrace will open a window that

is as high as the visible height of the public screen it is

appearing on, without overlapping the title bar.

1.12 Shell Startup Options: SCREEN

SCREEN

If you do not use this option, DOSTrace will open on the

default public screen which is most of the times the Workbench

screen. DOSTrace will try to open on the public screen whose

name is specified after this argument.

1.13 Shell Startup Options: TRACE and DONTTRACE

TRACE/DONTTRACE

By specifying a trace mask using the TRACE parameter you can

determine which AmigaDOS functions DOSTrace will actually

trace. The trace mask consists of a string of characters. The

function corresponding to the character will be traced. Use

the following characters (case sensitive):

A: AddBuffers M: LoadSeg

B: CreateDir N: Lock

C: CurrentDir O: MakeLink

D: DeleteFile P: NewLoadSeg

E: DeviceProc Q: Open

F: ExAll R: ParentDir

G: Examine S: Rename

H: ExamineFH T: SetComment

I: Execute U: SetOwner

J: GetDeviceProc V: StartNotify

K: Info W: SystemTagList

L: InternalLoadSeg X: Close

Y: UnLock

a: Read c: FRead

b: Write d: FWrite

For example, TRACEMASK=CDMNQI will only trace the AmigaDOS

functions that SnoopDOS 1.7 traces. By default, DOSTrace

monitors all AmigaDOS functions it knows about.

Specifying a trace mask for DONTTRACE will make DOSTrace

ignore the functions that you specify here. For example,

DONTTRACE=abcd will cause the many read/write operations some

programs make not to show.

The DONTTRACE trace mask always takes precedence over the

TRACE trace mask.

1.14   Shell Startup Options: TASK

TASK

If you want to trace the dos operations of a particular task,

this option will allow you to specify the address of that

task. For example, DT TASK=$0786ecc8 will only show the

activity of the program that has its Task/Process structure at

address $0786ECC8. The dollar sign ($) is optional and the

number is case-insensitive.

When DOSTrace is already running, you can use the "Task"

menuitem of the "Project" menu.

The name of the task currently being traced will be shown in

the title bar of the DOSTrace window.

To stop tracing a particular task, select the "Task" menuitem

of the "Project" menu and clear the address shown there. If

you then select "Ok", the title bar will reset and DOSTrace

will continue to trace all tasks.

See also To do .

1.15   Shell Startup Options: CX_PRIORITY

CX_PRIORITY

This option allows you to specify priority relative to the

other Commodities programs. Default priority is 0.

1.16   Shell Startup Options: CX_POPKEY

CX_POPKEY

This option allows you to change the default hot key for

DOSTrace. The default hot key is 'ralt d' (right Alt key

pressed with 'd').

1.17 Shell Startup Options: CX_POPUP

CX_POPUP

If you do not want DOSTrace to open its window, you can

specify the CX_POPUP switch like this: DT CX_POPUP=NO. By

default, the DOSTrace window will open.

1.18 Shell Startup Options: CX_ACTIVE

CX_ACTIVE

By specifying CX_ACTIVE=NO, DOSTrace start without its tracing

code enabled. By default, tracing starts immediately.

1.19 Starting DOSTrace from the Workbench

To start DOSTrace from the Workbench, simply double-click on

the DOSTrace icon to start the program or use the 'Execute

Command' item from the 'Workbench' menu.

1.20 Stopping DOSTrace

You can stop DOSTrace at any time by sending it a break signal. If

you started DOSTrace from the Shell, you can do this by pressing

Ctrl-C.

Since DOSTrace is a commodity you can use the Exchange utility to

control it.

'Show Interface' will open the DOSTrace output window

'Hide Interface' will close the DOSTrace output window

The 'Active/Inactive' cycle gadget will toggle DOSTrace's

activation status. When DOSTrace is active it will update it's

internal history even when the output window is closed; when it is

inactive, no output will occur.

'Remove' will tell DOSTrace to quit.

NOTE

DOSTrace will try to quit immediately. If any of the

patches are still in use, it will wait until no

program uses the DOSTrace patches anymore.

1.21 The Project menu

The Project menu gives you some control over DOSTrace's behaviour
while it is running.
· The Active menu item
DOSTrace is 'active' when it is allowed to monitor AmigaDOS
operations. When this menu item is checked, DOSTrace is active .
· The Task menu item
This menu item will cause a requester to pop up that asks you to
enter the address of the Task/Process structure of the program you
want to trace. If you enter an address that does not point to a
Task structure, DOSTrace will beep the display. See also the To Do
list and the TASK startup option.
· The Clear menu item
Clears the session history and the window.
· The Hide menu item
Does the same as the Hide gadget of the Exchange program. DOSTrace
stays in memory and, depending on its activation status, continues
to trace AmigaDOS.
· The Quit menu item
This causes DOSTrace to try to quit. See also Stopping DOSTrace .

1.22 Workbench Startup Options

You can specify the same options as explained in the
paragraph Shell Startup Options by adding tooltypes to the
DOSTrace icon.
NOTE
If you use the CX_POPUP and/or the CX_ACTIVE tooltype
you must specify them with '=YES' appended to them.
For example, 'CX_POPUP=YES'. Not using them defaults
to CX_POPUP=YES and CX_ACTIVE=YES.
To change the task priority of DOSTrace you can add the TOOLPRI
tooltype to the DOSTrace icon. For example, adding TOOLPRI=5 will
start running DOSTrace with task priority 5.

1.23 About the trace output

The information shown depends on which function is being traced

but all messages have 3 components in common:

Process Name The name of the process calling the

AmigaDOS function.

Trace Info Verbose information about the function

being executed.

Result Whether the call was succesfull or not

(if applicable)

1.24 To do, wishes, suggestions...

· A listrequester to select the task that should be monitored

· Auto-detach from the CLI

· Keeping the same position in the session history after a resize

· An ARexx port

· Prefs panel

· An alternative, less verbose output mode

1.25 Legal Stuff

COPYRIGHT NOTICE

DOSTrace software and documentation are Copyright © 1993 by Peter

Stuer. All rights reserved.

DISCLAIMER

DOSTrace has proven to be stable in everyday use. The author is

not responsible for any loss of data, damages to software or

hardware that may result directly or indirectly from the use of

this program. The author reserves the right to make changes to

the software or documentation without notice.

PREFACE

This program is freeware, this means that you can copy it freely

as long as you don't ask any more money for it than a nominal

fee for copying. If you want to distribute this program you

should keep this document with it. This program cannot be used

for commercial purposes without written permission from the

author.

None of the files of the DOSTrace package may be modified or

left out without permission of the author. Crunching or
archiving is allowed only if none of the DOSTrace files get
modified by it.

Special permission is hereby granted to include DOSTrace in
Public-Domain collections such as Fred Fish's Amiga Library.

1.26   About the author and the program

DOSTrace has been created using the Macro68 Assembler and
CygnusEd Professional 3 on an Amiga A3000 25/100 with 10MB
memory. The DOSTrace documentation was formatted with PRoff.

If you have suggestions or remarks about this program, or if you
find any bugs, please let me know.

When sending in bug reports, please state exactly under what
circumstances the bug occurred, what equipment was used and what
happened. If possible also try to give me enough information to
reproduce the bug. It is very difficult to find bugs when you
don't know exactly what happened.

Write to the following address:

Fido : 2:292/603.7 (Peter Stuer)

AmigaNet : 39:120/102.7 (Peter Stuer)

NLA Net : 14:200/101.7 (Peter Stuer)

UUCP : Peter.Stuer@p7.f603.n292.z2.FidoNet.Org

SnailMail: Peter Stuer

Beatrijslaan 2 bus 13

B-2050 Antwerpen L.O.

Belgium - Europe

I will also try to put the latest available version of DOSTrace
on the following BBS (this may change without further notice):

Great Balls Of Fire BBS

ReqTools Support BBS

Herman Stevens

Lubbeek

ADS Distribution HUB

ABC Host Belgium

AFN Host Belgium

Tel. +32-(0)16-64.09.12

ZyXEL U1496+ 16800 BPS (N.8.1) v32bis v42bis

24-24 h.

Fido Node 2:292/603

NLA Node 14:200/101.0

AmyNet 39:120/102.0

1.27   Program History

Program History

::: Version 2.13 ::: December 14, 1993 ::::::::::::::::::::::::::

- BUG FIX: Fixed a small bug that caused high-ASCII characters

in filenames to disappear. Thanks to Stefan Ottosson for

reporting this.

- BUG FIX: The session history was not redrawn if there were less

lines in the session history than could be displayed. Thanks

to David Nouls & Bart van Assche for reporting this.

::: Version 2.12 ::: December 6, 1993 ::::::::::::::::::::::::::

- NEW: Added trace code for Read() , Write() , FRead() and FWrite() .

Thanks to Preben Nielsen for suggesting this.

- NEW: LEFT and TOP options let you specify the left and top

position of the DOSTrace window. Thanks to Preben Nielsen for

suggesting this.

- NEW: DOSTrace remembers the position and dimensions of its

window when it shows it window again after a Hide .

- NEW: You can use the following keys to control the position of

the session history :

Cursor Up/Cursor Down 1 line up/down

Shift Cursor Up/Cursor Down 1 page up/down

Control Cursor Up/Cursor Down top/bottom

Thanks to Magnus Holmgren for suggesting this.

- NEW: To avoid using a ridiculously long TRACEMASK parameter

if you DON'T want to see the trace results of a function, I

replaced the TRACEMASK parameter with the TRACE and DONTTRACE

parameter.

- NEW: Brought the manual up to date and added more links in the

AmigaGuide file.

- BUG FIX: Due to register leaking DOSTrace would exit sometimes

when it reopened its window after another copy of DOSTrace woke

the original up. Thanks to Rafael D'Halleweyn and Magnus Holmgren

for reporting this.

- BUG FIX: DOSTrace ignored the CX_PRIORITY argument. Thanks to

Rafael D'Halleweyn for reporting this.

- BUG FIX: The broker name of DOSTrace did not fit completely in

the provided space by Exchange . Thanks to Rafael D'Halleweyn

for reporting this.

- BUG FIX: Fixed a bug that could cause a lock-up of the console

device during a refresh of the session history . Thanks to Bart van

Assche for helping me to track it down.

::: Version 2.11 ::: Not released ::::::::::::::::::::::::::::::::

- This version accidentally leaked out as ßeta.

::: Version 2.10 ::: November 15, 1993 :::::::::::::::::::::::::::

- NEW: Added trace code for Close and UnLock.

- NEW: Removed the annoying delay when quitting DOSTrace. Thanks

to Rafael D'Halleweyn for the suggestion.

- NEW: Added up/down gadgets to scroll up/down line by line.

- NEW: Added the TASK option and Task menu item (requested by

Jan Dujardin)

- NEW: Added Clear menu item to clear the history buffer while

DOSTrace is running.

- NEW: Added an Active menu item to make activating and

deactivating DOSTrace on the fly easier.

- IMPROVED: Optimized some of the core routines.

- IMPROVED: DOSTrace starts active and with the output window

open when run from the CLI.

- IMPROVED: Removed inner border to make DOSTrace more conform to

the Style Guide.

- IMPROVED: Execute() and SystemTagList() now show which program

they are trying to run before the program starts running.

- IMPROVED: When DOSTrace is unable to determine the filename of

the object a DOS function is acting on it will use the name

"Unknown Object" instead.

You will notice this especially when closing or unlocking

objects that do not or incompletely support a file system like

CON:, PRT: or NIL:.

- BUG FIX: Removed a bug that caused a signal to stay allocated.

- BUG FIX: Fixed a display bug.

::: Version 2.00 ::: August 21, 1993 :::::::::::::::::::::::::::::

- Complete rewrite.

- NEW: added monitoring code for InternalLoadSeg and NewLoadSeg.

- IMPROVED: Made trace code smaller and faster.

- BUG FIX: Suppressing Workbench's background DOS operations did

not work always.

- BUG FIX: I forgot (again) that some programs still wrongly

expect that D0 and D1 are equal when returning from LoadSeg.

This should fix problems with programs that use old overlay

managers.

::: Version 1.00 ::: June 22, 1993 ::::::::::::::::::::::::::::::

- First release

Thanks to Nico François, Johan van Houtven, Hermans Stevens, Jan

Dujardin, Rafael D'Halleweyn, Stu Churchill, Magnus Holmgren and

Per-Anders Josefsson for testing DOSTrace.