Default

COLLABORATORS			

	TITLE : Default		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		February 12, 2023	

REVISION HISTORY			

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

Default

1.1 Main

```
        HTDS
         Enhanced!!


        ===========================================================
        =              StreamLineOS [SLOS] ßeta v1.8            =
        ===========================================================
        +              Copyright © 1996 Dave Jones              +
        +                  All rights reversed.                 +
        -----------------------------------------------------------
        +        GiftWare – Please send me **anything!**        +
        -----------------------------------------------------------
        REMEMBER! : If you like this program, Rate it on Aminet!
        -----------------------------------------------------------


                          Contents:


            1.  Archive contents.

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```

```
          12. Messages from me.

          13. Why Register?
        Author :
```

Dave Jones
40,Heol Edward Lewis
Gelligaer
Hengoed
Mid Glamorgan
CF82 8EJ
South Wales

EMail:
DJones@CardiffCyberCafe.Co.Uk

1.2   Contents of the archive.

```
 1. Archive contents.
```

The archive you recieved should contain the following files
(Plus possibly some BBS adverts)

```
        StreamLineOS ................... This is the executable.
        StreamLineOS.Info .............. The icon for use with WorkBench.
        StreamLineOS.Guide ............. This Documention.
        Register.Txt ................... Short form for updates.
```

And no other files.

No other libraries/devices e.t.c. are needed, it is a stand-alone program.

1.3   Distribution rules.

```
 2. Distribution.
```

```
                  This is a --GIFTWARE-- program.
```

I.e. if you like/use it, then please send me a gift of some sort..
Just brighten my day, by sending me a -small- token of your gratitude,
and by letting me know that someone thinks I should keep working on it.

Don't know what type of gift to send?

* Unwanted CD's (Music or Computer)
  If computer CD's, either Amiga CD's, or ones with Amiga-Usable files.
  For example GIF's,MOD's,JPEG's,MPEG's,FLI's e.t.c..
  If music, I'll listen to pretty much anything noisy, My CD collection varies
  from Nine Inch Nails to KoRN, from Moby to the Chemical Brothers from Prodigy

   to Type O Negative etc. Be imaginative!

* BlankDisks (Please, No R/W errors!)
  Please, Only HD disks! I have -Hundreds- of DD disks!

* harddisks/CD drives e.t.c.. ;-P
  (In this case, A few bad sectors permissable :^Þ

* If you are a ShareWare author, then sending me a keyfile for one of your
  programs would be a nice thought...
  (You could even E-Mail it to me!)

* I play bass guitar, so maybe a few plectrums, strings, a tablature book or
  something would be cool ;^)

* Food!? Prevent a Giftware programmer from starving TODAY!
  Pot Noodles? Mars-Bar Milk Shakes? Years supply of Energy drinks?

* If you don't feel you can send me a gift, just a note/email saying thanks
  would be nice.

Permission is granted for ...

1. you to spread this archive across all electronic storage mediums
   (Non profit-making BBS's,InterNet e.t.c...)

2. This program to be included in any PD CD collections
   (I'd reeeally like a copy though ;^) what you say huh?

3. Any magazines to put the archive on their coverdisks/subscriber disks
   as long as..

   a. I am contacted me first, so that you can ensure you have the
      latest version!
   b. I'm sent a copy of the issue featuring my program(s).

However distributed, You must include -ALL- files (Program,Docs, and Icons)
in their unmodified form, and no additional material may be included in the
archived form.

1.4   Whats this program for?

 3. What does it do and why ?

This program goes through every library and device loaded in ram, and then
searches for optimisations missed by the author, and patches them to use
faster code.

1.5   What you need.

4. Requirements.

To Run StreamLineOS you will need...

* At least V37 of the Operating System.
  If anyone is still using KickStart 1.3, and would like me to support them,
  then please (e)mail me, and I'll consider adding support, depending on the
  amount of requests. But you really should consider upgrading!!

* If you use one of my other patches 'FasterForbid', then you may remove it,
  as this patch does the same thing, AND MORE!

No other requirements whatsoever.

1.6 What to do.

5.Usage.

You can run StreamLineOS at any time, place it in startup-sequence/user-startup
or drop it into the WBStartup directory.

If you run it too early, certain libraries/devices won't be loaded, therefore
these won't be patched.

You can run StreamLineOS anytime, and it may pick up extra optimisations,
this may seem odd that they were missed when you run StreamLineOS earlier,
but the reason for this is quite simple, there are now extra libraries and/or
devices that were not open at the earlier time.

CLI/Shell Arguments:

QUIET
~~~~~
This option suppresses all text output.

VERBOSE
~~~~~~~
This displays the optimisation reports on a per library/device basis.

SKIPDEVICES
~~~~~~~~~~~
This argument means that SLOS only optimises Libraries.
This was mainly introduced as a debugging aid, and will be removed
in v2.0

Without arguments, the output will be in a 'summary' format.

1.7 Known Bugs/Incompatabilities.

```
  6.Bugs!
```

* There were problems reported with Kickstarts v40.63 and v40.70 AFAIK, there
  wasn't an a1200 build of these kickstarts, so I am unable to rekick the ones
  I have on my Amiga. I cannot verify myself that I have 100% removed this bug,
  but I removed a real bad bit of code in v1.5 that should have fixed the
  problem. If not please contact me.

* Your VirusKiller/Monitor Program may report some strange addresses in it's
  Libvector reading, this is a bug in the VirusKiller, due to the programmer
  not checking that there is a JMP instruction, and just assuming that there
  will be a valid address two bytes from the library LVO point.

1.8   Technical Information.

```
  7. Technical Information.
```

* How exactly does this work?

  StreamLineOS searches through the resident library and devices lists,
  Opening each one in turn, optimises it, and then closes it.

* What does it optimise?

  If it finds a routine whose first instruction is an unconditional
  branch to another memory region, ie..

```
        JSR $xxxxxxxx
        RTS

        JMP $xxxxxxxx

        BRA $xxxxxxxx

        BSR $xxxxxxxx
        RTS

        PEA $xxxxxxxx
        RTS

        MOVE.L #$xxxxxxxx,-(SP)
        RTS
```

  Then it will read this second address, and store it in the jumptable, so
  all calls to this library routine will go straight to the code instead of
  all this pointless jumping around! SLOS will also handle nested jumps,
  No need to run SLOS twice.

  If the routine exits immediately (An RTS) then this RTS is copied into the
  vector table.

  If the routine is three words long or less, (Including the RTS) then it will

```
copied directly into the vector table.
Such routines are..

      Moveq.l #n,d0
      Rts

      Clr.l    Dn                  (This actually gets optimised to a Moveq)
      Rts

      Move.l   Register,Register
      Rts

      Addq.x   #n,??               (Not performed if destination=memory address)
      Rts

      Subq.x   #n,??               (Not performed if destination=memory address)
      Rts

      Move.l nn(Ax),-(SP)
      Rts

      Move.l Reg,nn(Ax)
      Rts

      Move.l nn(Ax),Dn
      Rts

      Move.l nn(Ax),An
      Rts

      BClr #n,Dn,RTS                   (If n<15 this becomes And.w #$FFFF~n,Dn)
      BChg #n,Dn,RTS                   (If n<15 this becomes Eor.w #1<<n,Dn)
      BSet #n,Dn,RTS                   (If n<15 this becomes Or.w  #1<<n,Dn)

      Jsr nn(An),RTS

      The 32 bit math instructions..
       muls.l  D1,D0
       mulu.l  D1,D0
       divsl.l D1,D1:D0
       divul.l D1,D1:D0
       muls.l  D1,D1:D0
       mulu.l  D1,D1:D0
```

* StreamLineOS is Coded in 100% Assembly Language for speed and compact size.
  The Assembly Source code length is approximately 16k.

* Contains 100% PC relative code, which means it will load at any address
  without any need for relocation. Let's see 'C' coders write a program
  like that!

* Will free any opened libraries/devices and exit gracefully on Failure/Exit.

* Uses no memory when installed!!

* Has been tested extensively with ...
    - Enforcer v37.62
    - Mungwall v37.71
    - CodeWatcher.
    - Several CBM 'Strain' type tools (Low-mem, low cpu-time e.t.c.)
    - Several personal debugging tools.
    - Kickstarts...
      v37.175 [A500]
      v37.210 [A500]
      v39.106 [A1200]
      v40.010 [A600]
      v40.070 [A4000]
    As and when I get new Kickstarts, I'll add extra support for them.

* Has had extensive testing by myself and my ever faithful army of
  ßeta-testers on all sorts of varying configurations of Amiga, who will
  be sure to let me know if there are any problems [I HOPE!] ;-Þ

* Has been developed on an a custom made 1200T fitted with
    - GVP 1230-II accelerator (50Mhz 68030,MMU, 4mb of 32 bit 60ns fastram)
    - 3.5" IBM 525Mb IDE Harddisk.

* The patches made by StreamLineOS cannot be undone.

* This is the most important one! ;^)

Here's what I wrote up till version 1.5 ..

>   Someone called this program 'SLOS' which I think sounds awful.
>
>   This is not SLOS! There's only a 1 BIT difference between the word
>   SLOS and SLOW, which is not a nice thought ;^)
>
>   Though, SOS sounds like some sort of AntiGuru or DiskSalv type program.
>   Anyone think of a better acronym?

Well, no-one did, and some people agreed that SLOS sounded good.
Since then, SLOS has grown on me, and so from this day, let it be known
as SLOS!

1.9 History of development.

 8. History.

Please note, that all 1.x releases are beta state, and can contain bugs.
The final release will be numbered 2.x, and I'll start this revision when
I stop recieving bug reports!

```
Key:
 BF = BUGFIX
 IM = IMPROVEMENT
 NF = NEW FEATURE!

v1.0: Release date 23-Sep-96
      Released via IRC to get some feedback/bug reports.


v1.1: Release date 2-Oct-96
      NF - Added Optimisation 'RTS'.
      IM - Added a CacheClear call. This should improve 68040+ compatability.
      IM - Added Checksumming of library after patching.


v1.2: Release date 10-Oct-96
      BF - Used to call ENABLE more times than DISABLE, now fixed.
      BF - Now clears optimisation count before optimising Devices.
      BF - Removed some bugs in the BSR/BRA optimisation.
           This should fix the problem when running MCP.
      BF - Removed 2 Enforcer hits.
           Now initialises Port correctly.
      NF - Added QUIET and VERBOSE arguments.
      NF - Added more Optimisations.
           * 'ADDQ/SUBQ,RTS'.
           * '32 Bit divide/multiply',RTS.
           * MOVE.l nn(Ax),-(SP),RTS
           * MOVE.l Reg,nn(Ax),RTS
           * MOVE.l nn(Ax),Dn,RTS
           * MOVE.l nn(Ax),An,RTS
           * BCLR/BCHG #n,Dn,RTS
           * JSR nn(An),RTS
      IM - No longer prints 'found 0 .....'s.
      IM - Now reports results on a library/device basis.
      IM - Optimised the lib searching a little.
      IM - Removed some duplicate routines.
      IM - Tidied up the docs a little.


v1.3: Release date 19-Oct-96 -- Not released to Aminet.
      BF - Now only each checksums library once instead of 10 times.
      IM - Removed a NEWLIST macro, seems AddPort does this itself.
      IM - Replaced lots of duplicate code with a subroutine.


v1.4: Release date 21-Oct-96 -- No public release
      NF - Added optimisation 'NOP'.


v1.5: Release date 11-Nov-96
      BF - Fixed a bad bug where addq.x #n,MemAddress would get copied
           into the vector table -- Bad news, as with the RTS, this is
           two bytes too big.
      IM - Now it optimises each library/device as many times as necessary
           which is much better than just doing each lib/dev 10 times, as
           it either did too many iterations, or not enough.
      IM - Changed optimisation 21 (jsr nn(ax),RTS) so that it now becomes
           a JMP in the vector table
      IM - Tidied and optimised group $4xxx instructions.
      IM - Tidied up the docs a bit.


v1.6: Release date 21-Nov-96
```

```
      BF - Rewrote the device optimisation part of SLOS.
           * Removed an enforcer hit which occured when SLOS tried to optimise
             parnet.device, There is a JMP $00000000 instruction in the
             jump-table. This is of course invalid, and will be patched to a JMP
             to an RTS in ROM.
           * When optimising devices, SLOS now uses a bigger IORequest structure
             to prevent innocent memory being overwritten by devices with larger
             extended structures.
           * SLOS now initialises it's IORequest structure properly, should fix
             up problems with some devices.
      NF - Added SKIPDEVICES argument, mainly for bug-testing.
      NF - Added Bset optimisation.
      IM - If the BClr/BChg/BSet value is <15 then it is transformed into a
           faster And/Eor/Or instruction.

v1.7: Release date 30-Nov-96
      NF - Added a $VER: string.
      IM - Corrected some errors in the history part of the docs.

v1.8: Release date 27-Dec-96
      NF - Added the Why Register? section to the docs
      IM - Added more info on my current projects as some people were
           asking questions ;^)

*NB* The last version (1.7) should have made it onto Aminet after I got the
okay reports back from my beta-testers, but for various reasons beyond my
control, it didn't, the code in this version is identical, so beta-testers
shouldn't be too worried that they 'missed a version.'
```

1.10   What I intend to do.

```
 9. Future.

* Better WorkBench support.
  - Icon Tooltype handling.
  - Text output.

* Fixing of all existing bug reports.

* Adding more optimisation types.
  As and when I get new KickStarts, I'll add extra optimisations for them.

* When 100% finished, SLOS will perform 3 passes.
  - pass 1 = Single opcode transform.
             This part is what SLOS can currently do, when refined I will
             go on to pass 2.

  - pass 2 = Optimise RAM based lib-vectors.
             Anything missed by pass 1 will have it's code rewritten
             as long as it's JMP ptr points to a RAM address.

  - pass 3 = All remaining libs will have 3 words from their JMP address
             copied to vectortable as long as the code in the 3 words,
              a. is not PC relative / doesn't Bcc to another address.
              b. terminates properly.
```

* If a library routine is in Chipram, and an identical routine exists
  in ROM, then the jump-vector will be pointed to the ROM version,
  which has quicker access times.

* Add optimising Resources.
  There are some resources which don't have a library structure.
  Unfortunatly, I can't figure out a way to determine which do, and which
  don't, as the node is marked as a resource (As it should)
  If you have any suggestions, PLEASE mail me, ;^)

* Version 2.0 of StreamLineOS will be a commodity, which will optimise the OS
  as and when it's necessary.
    - After a specified amount of library(s)/device(s) are opened.
    - When MakeLibrary(), AddLibrary(), AddDevice() or SetFunction() is called.
    - After a user specified timeout.

  Also I'll add a port, which will give access to the optimise functions.
  This may be of use to programmers of for example ReKick type tools.

* A streamline.library, which would make it's optimisation features available
  to other tools: Maybe even an Executable Optimiser?

* Maybe a 68020+ version of SLOS ?

* Implementation of any decent suggestions.
  Any ideas?

1.11   Information about me.

 10. About the Author.

Born : 6th Feb 1974)
Job : I work 9-5 as a data entry clerk.
        Drop dead boring, but it helps pay for new hardware e.t.c. ;^)
        {Offers of alterative jobs are welcome ;^}

I've been developing software on the Amiga since 1990, although a lot of it
was never released (Phew..) I was a commercial programmer for a while, but
things turned sour, and I turned to Shareware programming.

I really appreciate gifts of any description for my efforts.
(SUBTLE HINT: More Bribes==More Code) ;-)

I'm currently working on several small projects, helping out a few shareware
friends with a few programs, and also working on one large project of my own
which is primarily of use to assembly programmers.

Other releases by me...

 BootDate......... Outputs the date as a text string for redirection
                   to Env:BootDate, so you can 'Incbin Env:BootDate'.
 BorderBlank...... Toggles the area around the screen black / colour 0
 FasterForbid..... System speed patch. (Now superceded by SLOS!)
 FastWaitBlit..... System speed patch.

```
 FixMFMDevice..... Fixes benign bug in mfm.device
 FMS 3.x.......... Virtual Floppy disk on hard disk.
                   Now Taken over by  Matthias Andree (M_Andree@tribal.line.org)
 HunkGuide........ Documentation of Amiga executable file structures.
 MoveVBR.......... CPU speed patch.
 NoIconBorder..... Removes lines from around icons.
 PatchGuide....... AmigaGuide doc with tips for Patch writers.
 PointerX......... BusyPointer Hack.
                   Now taken over by Gideon Zenz (gzenz@Ernie.MI.Uni-Koeln.DE)
 PPLib020......... 68020+ Optimised powerpacker.library.
 RemCards......... Removes unneeded PCMCIA tasks/resources.
 RememberWin...... Patches CloseWindow to Call WindowToFront(ParentWindow)
```

I'm also the official recoder of the following...

```
 BootUte.......... System Degrader by Paul Toyne.
 FastExec......... System speed hack by Torbjörn Andersson.
 KickRom.......... Resident resident kickstart softloader by Gideon Zenz.
 RTPatch.......... Included with the Reqtools distribution.
```

I've also got a few other projects in a ßeta state for release soon.

```
 ExecTurbo........ Various system speed patches.
 ExeProbe......... Scans executables for bugs/optimisations.
 HiDensityPatch... Optimised version of Power Computing's driver.
 KickTool........ Patches kickstart files to use faster code.
```

1.12   How to contact me.

```
                11. Contact Address.
```

Feel free to contact me for donations, presents, flames, bug-reports,
ideas, requests, or even just to say hello..

Please, read
               my 'To do' list
                before suggesting something, if it's on there
it'll be added eventually, and nagging me won't make me code any faster! ;-)
(Bribes may have some effect though ;-)

```
 Dave Jones.
 40,Heol Edward Lewis,
    Gelligaer,
    Hengoed,
    Mid Glamorgan,
    Cf82 8ej,
    South Wales,
    U.k.
```

 EMAIL: DJones@CardiffCyberCafe.Co.Uk

 IRC: Termy on #Amiga most saturday afternoons GMT

Include postage if you require a reply. If you are just requesting an update,

then I will hold onto your postage until the next release is ready. If you are
not residing in the Uk, then just send two extra disks as payment.

If you are just sending a 'hello' don't expect a reply, as I get kinda busy
sometimes, but if you have a question, I'll try and respond as soon as
humanely possible.

If several people ask the same thing then, I'll write short replies in
the docs rather than Email all of you.

If you are writing to report a incompatability between StreamLineOS and some
other program, please send it to me (If Copyright laws allow it). Also, include
accurate instructions on how to reproduce the bug.

Soon, You'll also be able to read all my latest happenings and developments
on the WorldWideWeb, as soon as I get time to make some pages.

1.13   Thank you's e.t.c..

 12. Thanx/ Greetz e.t.c...

   My humblest thanks go to...

  Georgia Pristo.
  ~~~~~~~~~~~~~~~
  Wow, you've got to be my most persistant Beta-tester ;^) Recieving half a
  dozen mails each time I check my mailbox shows you really want this program
  to succeed ;^) I just hope I got it right this time, And thanks for support
  with ideas, kickstarts e.t.c.

  Jess [StarBlazer] <starblaz@prolog.net>
  ~~~~~~
  For prompting me to write more speed patches, Improvement Ideas,
  Beta-testing e.t.c.. Thank You! ;^)

  Other Great betatesters. (Beyond call of duty and all that...)
  ~~~~~~
  Stephen Williams (Steffan on #Amiga)
  Ariel Magnum
  Jason Rainforest (Lem on #Amiga)
  Kevin Fairhurst

  Thanks for testing, and giving reports ;^)

  Other Users
  ~~~~~~~~~~~~
  And thanks to those who bothered mailing me just for a Thank you.

  Angus Mann
  kiko@mailbox.swipnet.se
  Krister Simon Skrtic

```
Meijer Johan
rrawedor@big12.metrobbs.com
stifter@pha.pvtnet.cz

Thanks guys, it's appreciated to be appreciated ;@}


Brett Eden (BillieJoe on #Amiga)
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Thanks for the Kickstart support.


Ralph Schmidt (Laire on #Amiga)
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
For the cache tip, Even if you were reluctant to try SLOS out ;^)


Stefan Ruppert
~~~~~~~~~~~~~~~
For HTDS, which makes guides look so much more professional.



Sigh... Flame Flame...

Martin Berndt
~~~~~~~~~~~~~~
Thanks for not having the decency to either..
 a. Reply to my letter and return my disk.
 b. Credit me for the optimisation ideas for FPULibs.
I find it strange how a few days after I write to you telling you the
optimisations, you release v40.6 with my optimisations.
Never mind, It's your loss, as I could have probably told you many more.
```

1.14 HTDS

```
HTDS is a real cool Multiview enhancement by Stefan Ruppert
Check out Aminet:Util/DType/HTDS.lha

If you haven't installed this, and are viewing this guide on an
AmigaGuide system, then you may notice some strange codes in places.
```

1.15 whyregister

```
Why Should you register SLOS?
Everytime someone sends me a gift, They'll have their email address
added to a mailing list, which means everytime I build a new version,
you'll receive it in your mailbox, Including intermediate Beta versions
which don't end up on Aminet.

Occasionally, betas from my other projects also get sent to people on
this list, so register today, and get your share of some freebies!
```