

## 龙芯派 2 代编译内核

对于下载了 kernel 编译环境虚拟机镜像的朋友，请直接从第 6 步开始

文档是流水账，需要有一定 linux 功底，不能面面俱到，抱歉！

拷入 gcc 到/opt

vi .bashrc，在最后一行按 o，添加一个空行，然后按 i 进入字符插入模式，键入

```
export PATH=/opt/gcc-4.9.3-64-gnu/bin:$PATH 保存退出
```

```
source .bashrc
```

1. apt-get update

2. apt-get install libncurses5-dev

3. apt-get install bc

4. apt-get install make

5. apt-get install gcc

6. 将从龙芯 ftp 上下载的内核源码拷贝到虚拟机中，如/root 目录，解压，进入内核源码

目录，跳到第 10 步修改内核源码。

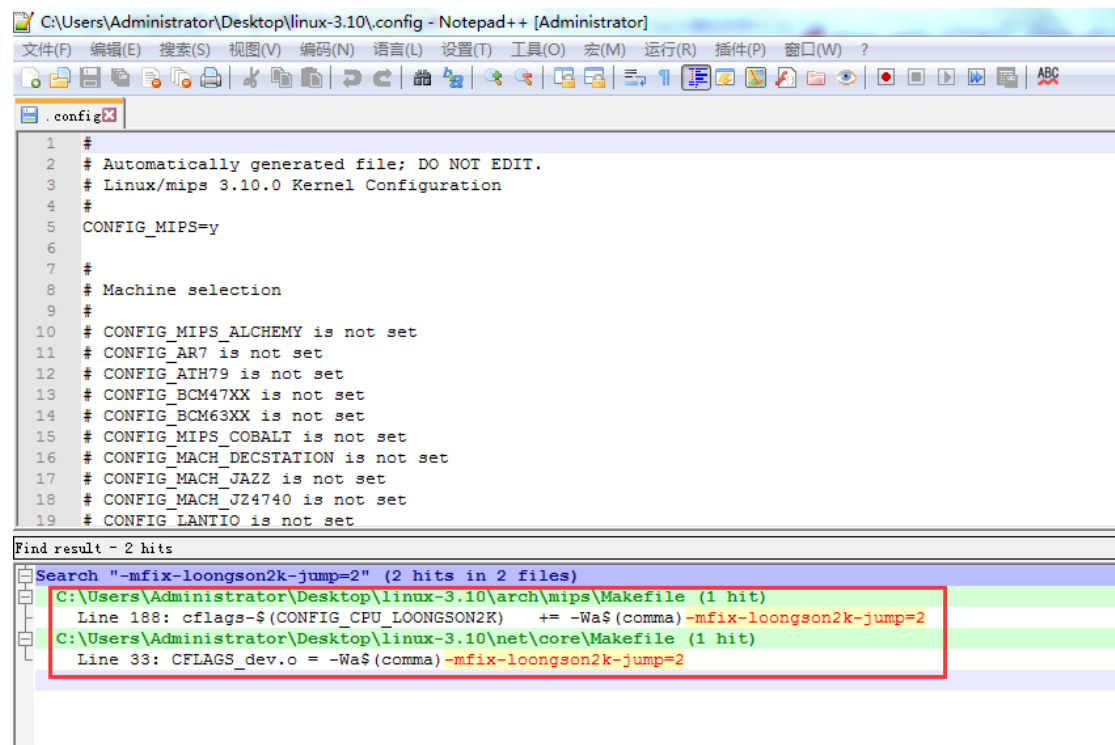
7. make ARCH=mips CROSS\_COMPILE=mips64el-linux- menuconfig

8. make ARCH=mips CROSS\_COMPILE=mips64el-linux-

9. make ARCH=mips CROSS\_COMPILE=mips64el-linux- modules\_install

第 9 的目的是在虚拟机/lib/modules/文件夹下生成 2k 内核模块的文件夹，3 开头那个文件夹就是，整个打包，和生成的 vmlinuz 一起拷出来，就成为了内核镜像和模块。

10 .对于派 2 的内核需要删除下面 2 个文件的其中一行，不然会像下下图那样报错



The screenshot shows a Notepad++ window with the file `C:\Users\Administrator\Desktop\linux-3.10\config` open. The text in the editor is a Linux kernel configuration file for MIPS. It includes comments like "# Automatically generated file; DO NOT EDIT." and "# Linux/mips 3.10.0 Kernel Configuration". It also lists various configuration options, some of which are not set, such as `CONFIG_MIPS_ALCHEMY`, `CONFIG_AR7`, `CONFIG_ATH79`, `CONFIG_BCM47XX`, `CONFIG_BCM63XX`, `CONFIG_MIPS_COBALT`, `CONFIG_MACH_DECSTATION`, `CONFIG_MACH_JAZZ`, `CONFIG_MACH_JZ4740`, and `CONFIG_LANTIO`.

Below the editor, the "Find result" pane shows 2 hits for the search term `"-mfix-loongson2k-jump=2"`. The hits are:

- `C:\Users\Administrator\Desktop\linux-3.10\arch\mips\Makefile (1 hit)`  
Line 188: `cfldags-$(CONFIG_CPU_LOONGSON2K) += -Wa$(comma)-mfix-loongson2k-jump=2`
- `C:\Users\Administrator\Desktop\linux-3.10\net\core\Makefile (1 hit)`  
Line 33: `CFLAGS_dev.o = -Wa$(comma)-mfix-loongson2k-jump=2`

The search results are highlighted with a red box.

```
debian stable [正在运行] - Oracle VM VirtualBox
管理 控制 视图 热键 设备 帮助
HOSTCC scripts/dtc/flattree.o
HOSTCC scripts/dtc/fstree.o
HOSTCC scripts/dtc/livetree.o
HOSTCC scripts/dtc/srcpos.o
HOSTCC scripts/dtc/treesource.o
HOSTCC scripts/dtc/util.o
HOSTLD scripts/dtc/dtc
HOSTCC scripts/genksyms/genksyms.o
SHIPPED scripts/genksyms/lex.lex.c
SHIPPED scripts/genksyms/keywords.hash.c
SHIPPED scripts/genksyms/parse.tab.h
HOSTCC scripts/genksyms/lex.lex.o
SHIPPED scripts/genksyms/parse.tab.c
HOSTCC scripts/genksyms/parse.tab.o
HOSTLD scripts/genksyms/genksyms
CC scripts/mod/empty.o
/opt/gcc-4.9.3-64-gnu/lib/gcc/mips64el-linux/4.9.3/../../../../mips64el-linux/bin/as: unrecognized option '-mfix-loongson2k-jump=2'
scripts/Makefile.build:341: recipe for target 'scripts/mod/empty.o' failed
make[2]: *** [scripts/mod/empty.o] Error 2
scripts/Makefile.build:491: recipe for target 'scripts/mod' failed
make[1]: *** [scripts/mod] Error 2
Makefile:553: recipe for target 'scripts' failed
make: *** [scripts] Error 2
root@debian:~/linux-3.10#
```



FlyGoat - 九月是龙芯的谎言

“小子 13:40:28 查看原文  
大家编译过派2的内核吗？”

我编过。。的确要删掉这个。。但是具体在哪里忘了。。也可能在顶层的  
Makefile里



知而无知-啥时候有2K1000的GPU寄存器地址

grep 猛起搜



FlyGoat - 九月是龙芯的谎言

grep -rn "loongson2k-jump" \*



FlyGoat - 九月是龙芯的谎言

看看



```

root@debian:~/linux-3.10# grep -rn "loongson2k-jump"
net/core/Makefile:33:CFLAGS_dev.o = -Wa$(comma)-mfix-loongson2k-jump=2
arch/mips/Makefile:188:cflags-$(CONFIG_CPU_LOONGSON2K) += -Wa$(comma)-mfix-loongson2k-jump=2
arch/mips/kernel/.asm-offsets.s.cmd:1:cmd_arch/mips/kernel/asm-offsets.s := mips64el-linux-gcc -Wp,-MD,arch/mips/kernel/.asm-offsets.s.d -nostdinc -isystem /opt/gcc-4.9.3-64-gnu/lib/gcc/mips64el-linux/4.9.3/include -I./arch/mips/include -Iarch/mips/include/generated -Iinclude -I./arch/mips/include/uapi -Iarch/mips/include/generated/uapi -I./include/uapi -Iinclude/generated/uapi -include ./include/linux/kconfig.h -D__KERNEL__ -DVMLINUX_LOAD_ADDRESS=0xffffffff80200000 -DDATAOFFSET=0 -Wall -Wundef -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Werror-implicit-function-declaration -Wno-format-security -fno-delete-null-pointer-checks -std=gnu89 -O2 -mno-check-zero-division -mabi=64 -G 0 -mno-abicalls -fno-pic -pipe -msoft-float -DGAS_HAS_SET_HARDFLOAT -Wa,-msoft-float -ffreestanding -fno-stack-check -march=mips64r2 -Wa,-mips64r2 -Wa,--trap -Wa,-mfix-loongson2k-jump=2 -I./arch/mips/include/asm/mach-loongson2 -mno-branch-likely -Wa,-mno-fix-loongson3-llsc -I./arch/mips/include/asm/mach-generic -msym32 -DKBUILD_64BIT_SYM32 -fomit-frame-pointer -g -DCC_HAVE_ASM_GOTO -D"KBUILD_STR(s)=\#s" -D"KBUILD_BASENAME=KBUILD_STR(asm_offsets)" -D"KBUILD_MODNAME=KBUILD_STR(asm_offsets)" -fverbose-asm -S -o arch/mips/kernel/asm-offsets.s arch/mips/kernel/asm-offsets.c

```

```

abicalls -fno-pic -pipe -msoft-float -DGAS_HAS_SET_HARDFLOAT -Wa,-msoft-float -ffreestanding -fno-stack-check -march=mips64r2 -Wa,-mips64r2 -Wa,--trap -Wa,-mfix-loongson2k-jump=2 -I./arch/mips/include/asm/mach-loongson2 -mno-branch-likely -Wa,-mno-fix-loongson3-llsc -I./arch/mips/include/asm/mach-generic -msym32 -DKBUILD_64BIT_SYM32 -fomit-frame-pointer -g -DCC_HAVE_ASM_GOTO -D"KBUILD_STR(s)=\#s" -D"KBUILD_BASENAME=KBUILD_STR(asm_offsets)" -D"KBUILD_MODNAME=KBUILD_STR(asm_offsets)" -fverbose-asm -S -o arch/mips/kernel/asm-offsets.s arch/mips/kernel/asm-offsets.c
kernel/.bounds.s.cmd:1:cmd_kernel/bounds.s := mips64el-linux-gcc -Wp,-MD,kernel/.bounds.s.d -nostdinc -isystem /opt/gcc-4.9.3-64-gnu/lib/gcc/mips64el-linux/4.9.3/include -I./arch/mips/include -Iarch/mips/include/generated -Iinclude -I./arch/mips/include/uapi -Iarch/mips/include/generated/uapi -I./include/uapi -Iinclude/generated/uapi -include ./include/linux/kconfig.h -D__KERNEL__ -DVMLINUX_LOAD_ADDRESS=0xffffffff80200000 -DDATAOFFSET=0 -Wall -Wundef -Wstrict-prototypes -Wno-trigraphs -fno-strict-aliasing -fno-common -Werror-implicit-function-declaration -Wno-format-security -fno-delete-null-pointer-checks -std=gnu89 -O2 -mno-check-zero-division -mabi=64 -G 0 -mno-abicalls -fno-pic -pipe -msoft-float -DGAS_HAS_SET_HARDFLOAT -Wa,-msoft-float -ffreestanding -fno-stack-check -march=mips64r2 -Wa,-mips64r2 -Wa,--trap -Wa,-mfix-loongson2k-jump=2 -I./arch/mips/include/asm/mach-loongson2 -mno-branch-likely -Wa,-mno-fix-loongson3-llsc -I./arch/mips/include/asm/mach-generic -msym32 -DKBUILD_64BIT_SYM32 -fomit-frame-pointer -g -DCC_HAVE_ASM_GOTO -D"KBUILD_STR(s)=\#s" -D"KBUILD_BASENAME=KBUILD_STR(bounds)" -D"KBUILD_MODNAME=KBUILD_STR(bounds)" -fverbose-asm -S -o kernel/bounds.s kernel/bounds.c
root@debian:~/linux-3.10#

```

17:00:30

2个文件中含有这个参数，这个参数龙芯加上去，但为什么龙芯自家编译器会报这个错误？



14:18:00



知而未知-啥时候有2K1000的GPU寄存器地址

龙芯自家的编译器包含这个参数支持的状态没发出来



FlyGoat - 九月是龙芯的谎言

“小子 14:00:39 [查看原文](#)

2个文件中含有这个参数，这个参数龙芯加上去，但为什么龙芯自家编译器会报这个错误？

---

因为这个修复的编译器没开源