

Re: [2.6 patch] add a config option for -Os compilation

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2003-09/6876.html>

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Date: 09/27/03

Date: Sat, 27 Sep 2003 00:36:12 +0200

To: Andrew Morton <akpm@osdl.org>, linux-kernel@vger.kernel.org, Yoshinori Sato <ysato@users.sourceforge.net>

On Thu, Sep 25, 2003 at 08:11:27PM +0200, Sam Ravnborg wrote:

```
> On Thu, Sep 25, 2003 at 04:38:45PM +0200, Adrian Bunk wrote:
> > --- linux-2.6.0-test5-mm4/init/Kconfig.old 2003-09-25 14:38:18.000000000 +0200
> > +++ linux-2.6.0-test5-mm4/init/Kconfig 2003-09-25 14:47:12.000000000 +0200
> > @@ -65,6 +65,16 @@
> >
> > menu "General setup"
> >
> > +config OPTIMIZE_FOR_SIZE
> > + bool "Optimize for size" if EXPERIMENTAL
> > + default y if ARM || H8300
> > + default n
> > + help
> > + Enabling this option will pass "-Os" instead of "-O2" to gcc
> > + resulting in a smaller kernel.
> > +
> > + If unsure, say N.
> > +
>
> This is a general file, and it is wrong to include architecture specific
> knowledge here.
> I recall that Roman Zippel introduced "enable" for exactly this purpose.
>...
```

I can't see how this would help in this situation, we need a default, not a dependency (OPTIMIZE_FOR_SIZE=n should be possible on ARM).

It's not the only option that sets defaults depending on the architecture and I can't see why it should be a bad thing.

```
> Another comment about the naming of the config symbol.
> We keep getting more config symbols controlling options to GCC.
> A naming scheme like: CONFIG_CC_OPTIMIZE_FOR_SIZE, CONFIG_CC_DEBUG_INFO
> is preferable since it give better context information.
> Let's start with this option, and rename the others later.
```

Linux-Kernel: Re: [2.6 patch] add a config option for -Os compilation

Below is the patch with CONFIG_CC_OPTIMIZE_FOR_SIZE.

> Sam

cu
Adrian

```
--- linux-2.6.0-test5-mm4/init/Kconfig.old 2003-09-25 14:38:18.000000000 +0200
+++ linux-2.6.0-test5-mm4/init/Kconfig 2003-09-25 14:47:12.000000000 +0200
@@ -65,6 +65,16 @@
```

```
menu "General setup"
```

```
+config CC_OPTIMIZE_FOR_SIZE
+ bool "Optimize for size" if EXPERIMENTAL
+ default y if ARM || H8300
+ default n
+ help
+ Enabling this option will pass "-Os" instead of "-O2" to gcc
+ resulting in a smaller kernel.
+
+ If unsure, say N.
```

```
+ config SWAP
```

```
    bool "Support for paging of anonymous memory"
    depends on MMU
```

```
--- linux-2.6.0-test5-mm4/Makefile.old 2003-09-25 14:38:18.000000000 +0200
+++ linux-2.6.0-test5-mm4/Makefile 2003-09-25 14:40:26.000000000 +0200
@@ -274,7 +274,7 @@
```

```
CPPFLAGS := -D__KERNEL__ -Iinclude \  
            $(if $(KBUILD_SRC),-Iinclude2 -I$(srctree)/include)
```

```
-CFLAGS := -Wall -Wstrict-prototypes -Wno-trigraphs -O2 \  
+CFLAGS := -Wall -Wstrict-prototypes -Wno-trigraphs \  
            -fno-strict-aliasing -fno-common
AFLAGS := -D__ASSEMBLY__
```

```
@@ -421,6 +421,12 @@
```

```
# -----
```

```
+ifdef CONFIG_CC_OPTIMIZE_FOR_SIZE
+CFLAGS += -Os
+else
+CFLAGS += -O2
+endif
```

```
+
+ifndef CONFIG_FRAME_POINTER
+CFLAGS += -fomit-frame-pointer
+endif
```

```
--- linux-2.6.0-test5-mm4/arch/arm/Makefile.old 2003-09-25 14:38:18.000000000 +0200
```

Re: [2.6 patch] add a config option for -Os compilation

Linux-Kernel: Re: [2.6 patch] add a config option for -Os compilation

```
+++ linux-2.6.0-test5-mm4/arch/arm/Makefile 2003-09-25 14:40:47.000000000 +0200
@@ -14,8 +14,6 @@
GZFLAGS :=-9
#CFLAGS +=-pipe

-CFLAGS :=$(CFLAGS:-O2=-Os)
-
ifeq ($(CONFIG_FRAME_POINTER),y)
CFLAGS +=-fno-omit-frame-pointer -mapcs -mno-sched-prolog
endif
--- linux-2.6.0-test5-mm4/arch/h8300/Kconfig.old 2003-09-25 14:43:27.000000000 +0200
+++ linux-2.6.0-test5-mm4/arch/h8300/Kconfig 2003-09-25 14:43:44.000000000 +0200
@@ -5,6 +5,10 @@

mainmenu "uClinux/h8300 (w/o MMU) Kernel Configuration"

+config H8300
+ bool
+ default y
+
+ config MMU
+   bool
+   default n
--- linux-2.6.0-test5-mm4/arch/h8300/Makefile.old 2003-09-25 14:38:18.000000000 +0200
+++ linux-2.6.0-test5-mm4/arch/h8300/Makefile 2003-09-25 14:38:24.000000000 +0200
@@ -34,7 +34,7 @@
ldflags-$(CONFIG_CPU_H8S) := -mh8300self

CFLAGS += $(cflags-y)
-CFLAGS += -mint32 -fno-builtin -Os
+CFLAGS += -mint32 -fno-builtin
CFLAGS += -g
CFLAGS += -D__linux__
CFLAGS += -DUTS_SYSNAME=\"uClinux\"
-

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