The other Architectures and Wine

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Agenda

- PowerPC
- MIPS
- ARM
- AArch64
- Thumb-2
- Buildroot

PowerPC (32-Bit)

- Not quite matured
- Not many users left (even none?)
- Missing debugger support

Status: Keep it alive as far as feasible

MIPS (32-Bit / 64-Bit)

- Interesting with regards to Android
- I tried porting it, but there seems to be some nasty problem with virtual memory

Status: Not working, not upstream

ARM (32-Bit)

- Runs PEs, gets packaged
- Waiting for mingw-w64-arm
- Biggest area of potential improvements is floating point support (mostly for debugging purposes)

Status: Most matured “other Architecture”

ARM64 (AArch64)

- VarArgs support needed in GCC as it was with x86_64
- Register X18 used for TEB on Windows, GCC uses it as temp register and as “static chain register”

Status: Winelib only due to ABI problems

Thumb-2

- Bug 33349
- “Use Thumb binaries on ARM?”
- Want to keep the ARM port compatible to old ARMv5TE hardware
- So maybe as “new” Architecture?

Status: Thinking about it

Buildroot.org

- A simple, efficient and easy-to-use tool to generate embedded Linux systems through cross-compilation
- A set of Makefiles and patches
- Can generate any or all of a cross-toolchain, a rootfs, a kernel image and a bootloader image

Buildroot.org

- Wine (1.6.2) support since 2015.05
- Can easily be used to test Wine on different architectures, just replace 1.6.2 with the version you like and select needed packages
- Should I add a Wiki page about it?

```
config BR2_PACKAGE_WINE
    bool "wine"
    depends on BR2_TOOLCHAIN_USES_GLIBC
    # Wine only builds on certain architectures
    depends on BR2_HOSTARCH = "x86_64" || BR2_HOSTARCH = "x86" || \
               BR2_HOSTARCH = "powerpc" || BR2_HOSTARCH = "arm" || \
               BR2_HOSTARCH = "aarch64"
    # Wine has much CPU specific code and mostly makes sense on x86
    depends on BR2_i386
    help
      Wine is a compatibility layer capable of running Windows
      applications on Linux. Instead of simulating internal
      Windows logic like a virtual machine or emulator, Wine
      translates Windows API calls into POSIX calls on-the-fly,
      eliminating the performance and memory penalties of other
      methods.

      http://www.winehq.org

comment "wine needs a (e)glibc toolchain"
    depends on BR2_HOSTARCH = "x86_64" || BR2_HOSTARCH = "x86"
    depends on BR2_i386
    depends on !BR2_TOOLCHAIN_USES_GLIBC
```

```
################################################################################
#
# wine
#
################################################################################

WINE_VERSION = 1.6.2
WINE_SOURCE = wine-$(WINE_VERSION).tar.bz2
WINE_SITE = http://downloads.sourceforge.net/project/wine/Source
WINE_LICENSE = LGPLv2.1+
WINE_LICENSE_FILES = COPYING.LIB LICENSE
WINE_DEPENDENCIES = host-bison host-flex host-wine
# For 0002-detect-ncursesw.patch
WINE_AUTORECONF = YES

---snip---

ifeq ($(BR2_PACKAGE_ALSA_LIB)$(BR2_PACKAGE_ALSA_LIB_SEQ)$
(BR2_PACKAGE_ALSA_LIB_RAWMIDI),yyy)
WINE_CONF_OPTS += --with-alsa
WINE_DEPENDENCIES += alsa-lib
else
WINE_CONF_OPTS += --without-alsa
Endif

---snip---
```