

Two Enhancements for Native Inferno

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Port/Translation of the new Plan 9 USB subsystem

- ▶ Kernel Drivers

- ▶ Mostly drop-in additions to the Inferno kernel
- ▶ `kproc(10)` has a different number of arguments
- ▶ Some memory allocation calls are different
- ▶ `ilock(10)` needed to be released before `wakeup(10)`
- ▶ OHCI initialization needed reordering

USB Library and usbd

- ▶ Translated from C to Limbo
- ▶ Source files consolidated into usb.b, usb.m, and usbd.b
- ▶ usbd local file server omitted
- ▶ Lower level parts were a direct translation

Upper-Level USB Drivers

- ▶ Existing Inferno USB database retained
- ▶ Existing Inferno dynamic loading retained
- ▶ New drivers for keyboard, mouse, and mass storage modeled on existing Inferno drivers and new Plan 9 drivers

Further Work

- ▶ Fold in most recent changes to Plan 9 code
- ▶ More testing and debugging
- ▶ Implement other upper-level drivers, e.g. Ethernet

Baseline VGA

- ▶ Original VGA hardware limited: best modes 320x200x8 and 640x480x4
- ▶ Almost all existing VGA controllers implement these modes
- ▶ Only modes common to all controllers

VGA Driver

- ▶ Driver programs controller registers on drawinit
- ▶ Supports both 320x200x8 and 640x480x4
- ▶ Initial 640x480 colormap is a compromise
- ▶ Implements software graphics cursor

Further Work

- ▶ Debug in qemu
- ▶ Mode X?
- ▶ VESA 3 protected mode entry points?