UsbDk at a Glance
Meet UsbDk

- UsbDk stands for “USB Development Kit”
- Universal engine for exclusive access to USB devices on Windows OSes
- Full user mode API for all device operations
- Designed to support all types of USB devices
- Generic API to allow wide range of use-cases
- Designed with HCK certifications in mind
- Hiding engine for total detachment of USB devices from OS software stack
Feature set

- **Totally dynamic device capture**
  No INF files and no self-signing needed
  Any device can be captured

- **Totally dynamic device detachment**
  Any device or class of devices may be hidden
  Prevents Windows from showing “New Hardware” pop-ups for devices without in-box drivers
  Great for security solutions

- **Co-existence with original device driver**
  When the device is not captured original driver is loaded by the system automatically
  If user mode client terminates unexpectedly for any reason system reverts to original device driver immediately

- **Supports for all types of devices and interfaces**
  Bulk, isochronous, composite, HID, etc.

- **Being USB filter driver doesn't require WHQL-ing**
  as per Microsoft requirements
Advantages over WinUSB

- Full feature parity
- Full support for isochronous devices
- Full support for composite devices
- No INF files and no signing needed
- Open source and community supported
Supported Windows Versions

- 7
- 8
- 8.1
- 10
- 2008 R2
- 2012
- 2012 R2
- 2016
- XP
- 2003
- Vista
- 2008
UsbDk is open source

- Hosted by:
  http://www.spice-space.org

- Mailing list:
  spice-devel
  (http://lists.freedesktop.org/mailman/listinfo/spice-devel)

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- License:
  Apache 2.0

- Git repository:
  http://cgit.freedesktop.org/spice/win32/usbdk/
Build environment

- Visual Studio 2015
- Windows Driver Kit (WDK) 10 for Windows 7/2008R2 and later platforms
- Software Development Kit (SDK) 10 for Windows 7/2008R2 and later platforms
- Windows 7 DDK (WDK 7.1) for Windows XP, 2003, Vista, 2008
- WiX toolset 3.8 for MSI packages creation
UsbDk components

- UsbDkController.exe
- UsbDkHelper.dll
- UsbDk.sys

Kernel mode
User mode
UsbDkHelper.dll API

- Driver installation
- Driver un-installation
- Enumerate USB devices
- Capture USB device
- Hide USB device
- Pipe transfer
- Control transfer
- Configure device
- Reset device
UsbDk.sys structure

UsbDkHelper.dll

Control interface

Generic USB device driver

USB hub filter

USB device filter

PNP Manager
Technical Info

- See ARCHITECTURE document at source tree root
  http://cgit.freedesktop.org/spice/win32/usbdk/tree/ARCHITECTURE

- Software Development Manual
  available on www.spice-space.org
Thank you!