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
- 2008
- 2008 R2
- 2012
- 2012 R2
- 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)

- Maintained by:
  Dmitry Fleytman <dfleytma@redhat.com>
  Dmitry Fleytman <dmitry@daynix.com>

- License:
  Apache 2.0

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

- Visual Studio 2013 Update 4
- Windows Driver Kit (WDK) 8.1 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

![Diagram showing UsbDk components]

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

**Modes:**
- User mode
- Kernel 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
  - USB hub filter
  - USB device filter
  - Generic USB device driver

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!