

# Re: Identify USB Keyboard Device Instance For Each Character Dynam

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*Source:*

<http://www.tech-archive.net/Archive/Development/microsoft.public.development.device.drivers/2006-01/msg00559.1>

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- *From:* cdavis999 <[cdavis999@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:cdavis999@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Mon, 16 Jan 2006 05:37:06 -0800
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Your guidance is highly appreciated. I look forward to trying this out.

"Doron Holan [MS]" wrote:

- > look at the kbfiltr example in the DDK, your life will be much easier. you
- > can easily hook into the scan code reporting mechanism by using the service
- > callback as demonstrated in the sample. no irps, just an array of packets.
- > from there you can decide which elements of the array you report up to the
- > class driver.
- >
- > to determine which device you are filtering, in your AddDevice routine you
- > run your algorithm. Typically this would be looking at a devnode registry
- > key that your INF put down during installation that tells you the type of
- > device. you store this value in the device extension of your devobj. in
- > the callback routine, you are passed teh devobj, so it is a simple core at
- > that point in time.
- >
- > finally, if you still have control of the hw, put the barcode stuff into a
- > separate top level collection. that is the whole point of HID, you separate
- > out different functions into separate pieces.
- >
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- >
- > "cdavis999" <[cdavis999@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:cdavis999@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)> wrote in message
- > [news:141B0008-9679-441E-B434-69C77437D7FA@xxxxxxxxxxxxxxxxxxxx](mailto:news:141B0008-9679-441E-B434-69C77437D7FA@xxxxxxxxxxxxxxxxxxxx)
- >> I have two USB keyboard devices attached to my target WinXP/SP2 box. One
- >> device is actually a USB barcode scanner that functions as a keyboard and
- >> one
- >> actually is a USB keyboard. My debugger output below shows the devstack
- >> for
- >> each device object under my kbdclass driver object. (The reason you see

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>> the  
>> SysInternals Ctrl2cap filter driver is because I've been using the code in  
>> the Ctrl2capReadComplete function to peek at the scan codes.)  
>>  
>> What I'm trying to understand is whether it is possible to  
>> programmatically  
>> distinguish the IRPs from the barcode scanner from the IRPs from the  
>> actual  
>> keyboard. I would like to intercept and redirect the barcode input before  
>> it  
>> passes into the Windows keyboard input processing and is tied to  
>> interpretation as messages by a windows procedure with keyboard focus. So  
>> I  
>> need to evaluate the DO origin for each character.  
>>  
>> Can a specific (IRP that contains keystroke data) be associated somehow  
>> with  
>> the specific device object that originated it? (In my case, the  
>> KeyboardClass2 DO with the Device Instance string  
>> "HID\Vid\_065a&Pid\_0001\6&223cc4d1&0&0000" is my barcode scanner.)  
>>  
>> I would be grateful for any insight into possible approaches to solving  
>> this  
>> problem. I would also like to know it's infeasible or crazy. Also, as a  
>> newcomer to driver development I would appreciate any correction to any  
>> obvious misunderstandings on my part.  
>>  
>> Thanks very much!  
>>  
>> Debugger Output:  
>>  
>> kd> !drvobj kbdclass  
>> Driver object (866fd5e8) is for:  
>> \Driver\Kbdclass  
>> Driver Extension List: (id , addr)  
>>  
>> Device Object list:  
>> 860a5030 86697030 866fe030  
>>  
>> kd> !devstack 860a5030  
>> !DevObj !DrvObj !DevExt ObjectName  
>> 8621d020 \Driver\Ctl2cap 8621d0d8  
>>> 860a5030 \Driver\Kbdclass 860a50e8 KeyboardClass2  
>> 86535020 \Driver\kbdhid 865350d8  
>> 864e20f8 \Driver\hidusb 864e21b0 0000005d  
>> !DevNode 86699518 :  
>> DeviceInst is "HID\Vid\_065a&Pid\_0001\6&223cc4d1&0&0000"  
>> ServiceName is "kbdhid"  
>>  
>> kd> !devstack 86697030  
>> !DevObj !DrvObj !DevExt ObjectName

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```
> > 86277020 \Driver\Ctrl2cap 862770d8
> >> 86697030 \Driver\Kbdclass 866970e8 KeyboardClass1
> > 864e75a8 \Driver\kbdhid 864e7660
> > 86792920 \Driver\hidusb 867929d8 0000005b
> > !DevNode 86276468 :
> > DeviceInst is "HID\Vid_413c&Pid_2003\6&15c34ccb&0&0000"
> > ServiceName is "kbdhid"
> >
> >
>
>
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>
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• **References:**

- ◆ **[Re: Identify USB Keyboard Device Instance For Each Character Dynamical](#)**  
◇ From: Doron Holan [MS]
- Prev by Date: **[Re: RNDIS composite USB device](#)**
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