

Re: assessing winusb potential

Source:

<http://www.tech-archive.net/Archive/Development/microsoft.public.development.device.drivers/2008-05/msg00457.h>

- *From:* pswork <pswork@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Wed, 14 May 2008 09:30:01 -0700
-

Thanks.

So as I understand it... I am doing bulk transfers, which consists of a Token, Data and Handshake transaction, in that order. So my device would respond with a NACK to the Handshake transaction if my device was not ready to receive? Why is the Data transaction before the Handshake? Seems like it would test for ready before it sent the data?

Paul

"Maxim S. Shatskih" wrote:

If the device is not ready to accept the packet, it returns NAK, and the host _hardware_ (the driver stack does not know on this) retries this packet on next USB frame.

—
Maxim Shatskih, Windows DDK MVP
StorageCraft Corporation
maxim@xxxxxxxxxxxxxxxxxxxx
<http://www.storagecraft.com>

"pswork" <pswork@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message news:40C70210-AF65-4F0F-805D-F9479F0C7C95@xxxxxxxxxxxxxxxxxxxx

Thanks. A related question....

I am now pouring over a USB book but the issue is still not clear. When the hosts sends data to a device, how does it know that the device has had a chance to read the data from it's USB hardware. What prevents the host from overwriting data if the device is slow to respond?

Paul

"Doron Holan [MSFT]" wrote:

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the device can only put bits on the wire when the host asks for it. this

is

why the host driver must always pend a transfer on the IN endpoint if the device is sending data asynchronously outside of the host asking for it through a protocol (like writing a packet to the OUT endpoint). as for the exact sequence of events in hw, i am a bit fuzzy, but any book on the usb protocol will tell you.

d

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"pswork" <pswork@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message news:FE329BF1-867F-40C5-B4A6-337942AE1CDA@xxxxxxxxxxxxxxxxxxxx

Thanks. I am working with some example code from the micro-controller I

am

using. So it appears in the USB interrupt handler that there is an event for IN and OUT data. On OUT data it calls an endpoint handler that reads the data sent by the host. But what triggers the IN data event. Does it go like this?

1. My device writes data to the IN endpoint.
2. USB hardware sends the data.
3. The IN data interrupt/event occurs after the data has been sent to the host. My device can now write more data to the IN endpoint.

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I'm still a little confused on when I can safely write to the data to the IN endpoint and what is the significance of the IN data interrupt.

Paul

"Doron Holan [MSFT]" wrote:

no, the host controller by itself will not poll the device asking if it has data. it is up to you to always have a pending transfer on the IN endpoint so that the host controller is always asking for data. your device can then send back data when it has something to send.

d

--

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"pswork"

<pswork@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>

wrote in message

news:78DF78A7-1D8F-4F8E-B2D4-87D9CCB03369@xxxxxxxxxxxxxxxxxxxx

Thanks, that did it. If I may, have another question.

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Using a
single bulk
address
with both a
IN and
OUT
endpoint. I
am a
little
unclear on
the device
sending
data to the
host. When
does the
host

send

notification
to the
device that
it is
expecting
data? In
particular
my
device
is
monitoring
some
engine
functions
and based
on some
conditions
will
asynchronously
send status
data to the
host. I know
a USB host
initiates
IN
data
transfers.
Does it
periodically
ask a device
if it has any
data

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to

send?

Paul

"Doron
Holan
[MSFT]"
wrote:

if
you
downloaded
the
latest
WDK
(6001)
it
comes
with
KMDF
1.7,
which
would
be
in
wdfcoinstaller01007.dll.
even
then,
you
might
have
the
1.7
coinstaller
b/c
there
was
a
servicing
problem
which
delayed
the
release
of
the
coinstaller.

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You
can
download
the
kmdf
coinstaller
separately,

<http://blogs.msdn.com/doronh/archive/2008/04/17/the-wdf-1-7-coinstallers-are-now-available.aspx>

d

--

Please
do
not
send
e-mail
directly
to
this
alias.
this
alias
is
for
newsgroup
purposes
only.
This
posting
is
provided
"AS
IS"
with
no
warranties,
and
confers
no
rights.

"pswork"
<pswork@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
wrote
in
message

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news:A2FE7491-7DD4-46C9-8F22-68CBA34161F1@xxx

I
am
trying
to
install
WinUSB
on
XP.
I
think
I
have
reviewed
all
possible
documentation
and
am
stuck.
I
installed
WDK,
used
a
sample
INF
from
a
Microsoft
site,
the
WinUSB
co-installer
works
fine,
however
the

KMDF

does
not.
I
do
not
have
WdfCoInstaller01005.dll
on
my

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system
nor
can
I
find
out
why
or
where
to
get
it.
Can
you
help?

[CoInstallers_CopyFiles]
WinUSBCoInstaller.dll
WdfCoInstaller01005.dll

"Doron
Holan
[MSFT]"
wrote:

try
the
1.5
versions
from
the
6000
WDK
..
the
installers
you
have
may
not
be
able
to
install
downlevel
(IIRC,
rc2
has
coinstallers
which

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can
install
downlevel
properly)

d

--

Please
do
not
send
e-mail
directly
to
this
alias.
this
alias
is

for

newsgroup
purposes
only.
This
posting
is
provided
"AS
IS"
with
no
warranties,
and
confers

no

rights.

"Neel"
<Neel@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>
wrote
in
message
<news:F2FE6C0A-7267-45B7-897C-EC841>

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Thanks
dmm
for
your
inputs.

I
gone
through
many
posting
on
the
given
link
but
my
problem
of
installing
the
winusb.sys
driver
for
the
USB
Stick
is
not
solved
(Using
the
INF
file
details
provided
my
microsoft
in
"WinUsb_HowTo.doc")
.

I
am
using
the
following
WDK
files
(WDK
–

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Windows
Server
2008
RC1)
for
the
installation
on
WinXP:
1).
WinUSBCoInstaller.dll
2).
WdfCoInstaller01007.dll
3).
WUDFUpdate_01007.dll
&
INF
file
from
the
""WinUsb_HowTo.doc"

I
am
installing
the
driver
from
"Device
Manager->Update
Driver"
on
the
connected
"USB
Mass
storage
Device".
Intallation
start
copying
&
installing
"WinUSBCoInstaller.dll"
&
"WdfCoInstaller01007.dll"
but
at
the
end,
it

message

displays
the

dialog
"Cannot
install
this
hardware",
"There
was
a
problem
installing
this
hardware".

Also,
when
I
select
the
device
in
Device
Manager
and
check
the
driver
details,
then
I
found
that
the
WINUSB.SYS
is
NOT
installed
(instead
the
default
USBTOR.SYS
is
installed).

I
think
there

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is
problem
with
INF
file
only.
What
could
be
the
problem?

Is
this
INF
file
not
proper?
Is
the
WDK
files
not
proper?

Thanks
Neel

"dmm"
wrote:

Hi
Neel

I
checked
my
notes
and
this
is
what
I
have:

Goto
the
OSR
Online
site

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<http://www.osronline.com/cf.cfm?PageURL=showlists.CFM?list=NTDEV>

and
search
for
"winusb."
There
is
a
lot
of
good
information
there
on
editing
your
inf
file
so
that
the
co-installers
will
execute
properly.

dmm

"Neel"
wrote:

Hi
dmm,

Please
could
you
tell
me,
how
did
you
install
the
winusb.sys?

I

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tried
it
100
times
but
still
not
able
to
succeed.
I
followed
the
instructions
given
in
"WinUsb_HowTo.doc"
which
is
from
Microsoft.
I
tried
it
on
internet
with
many
options.
But
no
use.

I
am
using
USB
stick
(Pen
drive)
device
for
installation.

Thanks,
Neel

"dmm"
wrote:

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Thanks
Don

--

just
like
you
said.
During
the
inf/installation
process,
the
winusb.sys
is
extracted
and
copied
to
directory
"\\windows\sys

dmm

"Don
Burn"
wrote:

Look
in
redis
the
files
are
part
of
a

coinstaller.

--
Don
Burn
(MVP)
Win
DDI
Win
2k/X
Files

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and
Driv
Con
Web
[http:](http://)
Blog
[http:](http://)
Rem
Stop
to
reply

"dm
<dm
wrot
in
mess

news:BA76B8CC-E1C4-4158-9B0D-0475D7949941@xxxxxxxxxxxxxxxxxxx

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