

## Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

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*Source:*

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.embedded/2006-11/msg00171.html>

---

- *From:* "mike-ca" <[bosanovav1@xxxxxxxxxx](mailto:bosanovav1@xxxxxxxxxx)>
  - *Date:* 8 Nov 2006 13:36:42 -0800
- 

KM,

the DVD model on my target is different from the one on my build system. so i extract the hardware info from the target and rebuilt the image. that seems worked.

thanks

mike-ca wrote:

KM,

i don't recall anything on BSOD. i have to wait until next week to reproduce it on the system which is using by other people at this moment.

one thing i am suprised is that BSOD didn't create mini dump under c:\windows, since i have set the "startup ad recovery" settings in my image to generate that.

i didn't try it on a uncloned image. here are the steps

- 1.) write image to disk
- 2.) reboot to the newly created image
- 3.) login, get some messages, "new hardware detected", "you need to reboot"....(not sure why i need to reboot again??)
- 4.) reboot the machine, see BSOD
- 5.) reboot again, works fine...

another thing, a few weeks ago, i was playing with my XPE image, when i did some copy-paste using notepad, the system crashed, i got BSOD, i don't remember the message though. ok, i hope you have a good weekend!

thanks!

KM wrote:

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

Mike,

I see. You used Bart's tools. This is different, not EWF required (WinPE approach).

El-Torito standard isn't related to EWF directly but Bootable CD on XPe (that is El-Torito based) does require EWF though to prevent the OS to write to disk:

<http://msdn.microsoft.com/library/en-us/xpeshelp/html/xeconElToritoCDAsDisk.asp>.

Now coming back to your original post, what else do you see on the BSOD screen? You'd need this info in order to proceed with the issue investigation as you have no other information available about the fault driver.

Another question, do you see the problem occurring if you do not clone the image (do not run fbresale). Just do a few reboot on the final image to verify that.

--

=====

Regards,  
KM

"mike-ca" <bosanovav1@xxxxxxxxxx> wrote in message  
<news:1162601752.587250.132130@xx>

KM,

here is what i did, i got it from google group with a few of my own comments added, but i cannot find the link anymore

-----  
create DVD

Required:

- 1) Embedded Windows XP SP1 Disc 1
- 2) Windows XP Professional installation Disc
- 3) Download <http://nu2.nu/nu2files/bcd111.zip> or the latest version of BCD (Build CD-ROM) on <http://nu2.nu/bcd>.
- 4) Download <http://nu2.nu/nu2files/bbie10.zip> or the latest version of BBIE (Bart's Boot Image Extractor) on <http://nu2.nu/bbie>.
- 5) Optional to burn ISO Image. Download <ftp://ftp6.nero.com/wnaspi32.dll>.

Here are the steps:

- 1) Make a temporary folder C:\BuildWinPE (where C: can be any drive and BuildWinPE can be any directory name)

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2) Extract with directories the bcd111.zip to C:\BuildWinPE.  
It will  
create a 'Bin' Directory.

3) Extract the file in the the bbie10.zip into the 'Bin' directory  
created by step 2.

4) Copy wnaspi32.dll to C:\BuildWinPe\Bin.

5) Insert the Window XP Professional installation Disc into  
CD Drive d:

6) Open a DOS box window and enter following the  
commands. Note that

"winpebootsect.bin" is case sensitive in a later step.

```
>CD C:\BuildWinPE
>MKDIR cds
>MKDIR cds\WinPE
>MKDIR cds\WinPE\Files
>CDDIR cds\WinPE\Files
>..\..\..\Bin\bbie d:
>rename image1.bin winpebootsect.bin
```

7) Remove the XP installation DisC

8) Insert the WinXPE SP1 Disk 1 CD

9) Enter the following commands in the DOS box window

```
>copy d:\Win51*
>Xcopy d:\I386 I386 /S
>Xcopy d:\XPE XPE
>cd ..
```

10) If you need customize network driver files:

copy custom inf file to

C:\BuildWinPE\cds\winpe\files\i386\inf

copy custom sys file to

C:\BuildWinPE\cds\winpe\files\i386\system32\drivers

11) If you need network support, append the following  
section to

C:\BuildWinPE\Cds\WinPE\Files\I386\winbom.ini:

[WinPE.Net]

IPConfig = DHCP

StartNet = Yes

12) Delete C:\BuildWinPE\cds\winpe\files\i386\bootfix.bin

if you want

to boot from CD always and not be prompted with

"Hit any key to boot from CD..."

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13) Create and copy the following lines into the file bcd.cfg  
in the  
C:\BuildWinPe\Cds\WinPe directory.  
mkisofsargs -N -l -no-iso-translate -relaxed-filenames  
#case must match that on the file when copied in previous  
steps !  
bootfile Winpebootsect.bin  
system WinPE  
application embeddedXP

13) In the DOS box enter "bcd -b winpe" to create the ISO  
in the file  
"%temp%\BCD.iso" or enter the command "bcd WinPe" to  
create  
and burn a WinPE CD.

The CD should boot WinPE and connect to the network.

note: "bcd" cannot create bootable DVD, but you can create  
ISO, then  
use thirdparty software like UltraISO

---

how is EL-Torito related to EWF??

thanks!

KM wrote:

mike,

I apology. I forgot that we already discussed  
the EWF points.

But now I have to back up and ask you again  
how you're creating the bootable CD? Do  
you use El-Torito technology to create one?  
How  
then you avoided EWF?

Where exactly you are seeing the BSOD?  
Booting off the CD or hard drive?

Ghost would work better around deploying  
disk data but nothing is perfect. Sometimes  
you have to use -IR switch to fix some  
MBR/BPB  
related issues and then issue gets bigger.

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--  
=====  
Regards,  
KM

"mike-ca" <bosanovav1@xxxxxxxx>  
wrote in message  
[news:1162582931.482285.228920@xx](mailto:news:1162582931.482285.228920@xx)

KM,

– yes, i use SDI loader to  
create a sdi file, then copy  
all the files  
created by TD to the sdi file.

– i didn't include any EWF  
components in my image,  
why did you ask  
about EWF? is there  
something i am missing??

-----  
i use "sdimg /writedisk:0"  
to write the image to my  
disk, then did  
some configurations  
afterwards, then create a  
golden image

on my bootable CD, i use  
"sdimg /writepart:c:" to  
write the image to  
the target

-----  
– yes, the image on my  
bootable CD is the same as  
the one i created in  
Step 6: golden.sdi

– if i use Ghost to capture  
the post-FBA and  
post-Fbreseal image, when  
that image generate unique  
SID once it's written to the  
target and  
then rebooted.

–so far, SDI approach has

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worked without any  
problem. my developing  
and target machines have  
the same  
hardwares(motherboard,  
hard drive,  
and so on), i guess that's  
why i haven't encounter any  
problem. will  
Ghost approach preserves  
disk geometry  
parameters??

i guess another way i can do  
it is to copy all the files on  
c: drive  
to my bootable CD, then  
write a scrip to format the  
targe and xcopy  
those files.

thanks!

KM wrote:

mike,

Please  
disregard  
my question  
about the  
SDI file  
size. It  
wasn't  
relevant to  
your issues.

With Ghost  
you won't  
end up with  
40Gb size.  
Ghost will  
only capture  
the data  
sectors on  
the disk and  
will also  
compress  
the

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image  
(you will  
likely end  
up with  
even  
smaller size  
than 750M).

When you  
say "copy  
the image  
files to a  
SDI file",  
do you  
mean you  
used SDI  
Loader on  
your dev  
machine?  
The thing is  
that it  
better  
be done on  
the target to  
preserve  
disk  
geometry  
parameters.  
Let me put  
it this way,  
to get media  
to boot you  
should  
partition  
and  
format it on  
target  
machine.  
But again,  
since you  
got the  
image  
booted you  
may not  
want to  
worry about  
it now.

What EWF  
mode do  
you use?

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Since you  
are  
switching  
from  
reading  
\*partition\*  
and writing  
\*disk\* it  
should be  
EWF RAM  
Reg mode.

And, I  
suppose, on  
the step 7  
you write a  
\*different\*  
image to  
CD, not the  
same  
golden  
image you  
just  
captured,  
right?

--  
=====  
Regards,  
KM

KM,

why  
did  
you  
say

---

```
sdimg  
myimage.sdi  
/writedisk:0  
/yes
```

"The  
approach  
is  
pretty  
dangerous

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since  
SDI  
doesn't  
deal  
with  
MBR  
properly.  
But  
since  
you  
got  
your  
image  
booted,  
it  
is  
not  
an  
issue  
for  
you.  
What's  
the  
SDI  
file  
size?  
Did  
you  
try  
using  
Ghost  
or  
other  
cloning  
tools?  
Or,  
better,  
did  
you  
try  
formatting  
the  
target  
partition  
and  
[x]copying  
all  
the  
files  
and  
folders

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of  
your  
image  
over  
there?  
"

-----

-  
what  
is  
wrong  
with  
SDI  
file??  
i  
am  
worried  
now.....

-  
the  
combine  
size  
of  
my  
image  
is  
about  
750MB,  
my  
hard  
drive  
is  
about  
40GB,  
if  
i  
use  
Ghost,  
will  
that  
create  
a  
image  
of  
40GB,  
which  
is  
not  
what  
i

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want

here

is

my

process:

1.)

build

the

image

using

TD

2.)

copy

the

image

files

to

a

SDI

file,

the

SDI

file

size

is

about

750MB,

put

this

image

on

the

network

share

(

will

run

"net

use

y:

\\192.144.0.1\\shared"

to

mount

it

later

3.)

boot

up

to

WPE,

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```
write
the
image
to
the
disk
>diskpart
diskpart>select
disk
0
diskpart>clean
diskpart>create
partition
primary
diskpart>select
partition
1
diskpart>exit
>sdimg
y:\image.sdi
/writedisk:0:
/yes
>diskpart
diskpart>select
disk
0
diskpart>select
partition
1
diskpart>active
diskpart>exit
>exit
4.)
reboot
to
the
image
on
disk,
this
will
run
through
FBA
process,
and
etc
(
why
did
you
```

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say  
this  
approach  
is  
dangerous??  
shoud  
i  
format  
a  
NTFS  
partition  
of  
about  
750  
MB,  
then  
xcopy  
all  
the  
files)  
5.)  
add  
some  
software  
and  
configurations  
to  
the  
image  
and  
run  
"fbreaseal"  
6.)  
reboot  
back  
to  
WPE,  
write  
the  
image  
to  
a  
SDI  
file  
on  
the  
network  
share  
>sdimg  
y:\golden.sdi  
/readpart:c:

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7.)  
create  
a  
bootable  
CD  
with  
the  
image  
here  
is  
the  
script  
on  
the  
CD,  
which  
i  
use  
to  
write  
the  
image  
to  
the  
target  
>diskpart  
/s  
format.bat

-----format.bat-----

>select  
disk  
0  
>clean  
>create  
partition  
primary  
size=750  
>assign  
letter=c  
>select  
partition  
1

-----  
>sdimg  
x:\golden.sdi  
/writepart:c:  
/yes  
>diskpart  
/s  
extend.bat

-----extend.bat-----

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```
>select  
disk  
0  
>select  
partition  
1  
>extend  
disk  
0  
>active
```

---

extend.bat  
will  
extend  
the  
C  
drive  
from  
750MB  
to  
40GB

could  
you  
please  
let  
me  
if  
you  
see  
any  
problem  
in  
my  
approach.  
i  
have  
been  
doing  
this  
for  
a  
while,  
have  
not  
seen  
any  
noticeable  
problem  
so  
far

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thanks!  
p.s.  
i  
wil  
look  
into  
your  
suggestions  
about  
blue  
screen  
later

KM  
wrote:

Mike,

Comments  
inline..

i  
just  
read  
somewhere  
which  
mentioned  
always  
add  
EWF  
components  
in  
TD  
to  
the  
image.  
since  
i  
am

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not  
booting  
from  
read-only  
media,  
i  
don't  
understand  
why  
i  
need  
EWF  
components  
at  
all.

Well,  
read-only  
media  
is  
not  
only  
the  
application  
of  
EWF.  
But  
if  
you  
system  
specs  
do  
not  
require  
EWF,  
you  
don't  
need  
to  
include  
it.

this  
doesn't  
happen  
consistently  
on  
the  
system,

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i  
just  
installed  
my  
image  
on  
a  
system,  
it  
wrote  
the  
image  
to  
the  
disk,  
then  
reboot;  
when  
i  
login,  
it  
says  
something  
like  
"new  
hardward  
detected,  
it  
needs  
to  
be  
rebooted...."(do  
you  
know  
why  
it  
always  
has  
to  
be  
rebooted  
twice  
after  
writing  
the  
image  
to  
disk?),

It

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doesn't.  
Does  
the  
new  
hardware  
identical  
to  
the  
old  
hardware  
where  
you  
capture  
the  
image  
from?  
Do  
you  
use  
system  
cloning?  
If  
you  
do,  
what  
settings  
you  
are  
removing  
or  
keeping?

Also,  
what  
new  
hardware  
is  
getting  
detected?  
If  
you  
click  
on  
he  
notification  
(or  
go  
to  
Device  
Manager  
directly)

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

it  
will  
show  
you.

so  
i  
rebooted,  
then  
i  
got  
this  
"IRQL\_NOT\_LESS\_OR\_EQUAL  
"  
error.

Anything  
on  
that  
BSOD  
screen  
beside  
the  
IRQL\_NOT\_LESS\_OR\_EQUAL?

so  
i  
turned  
off  
the  
power,  
rebooted  
again,  
this  
time,  
it  
worked  
fine.

if  
i  
got  
the  
error  
first  
time,  
why  
i

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

didn't  
get  
it  
the  
second  
time?  
should  
this  
happen  
consistently  
instead  
of  
randomly??

With  
the  
IRQL\_NOT\_LESS\_OR\_EQUAL  
it  
may  
happen  
inconsistently,  
depending  
on  
the  
faulty  
driver.

How  
does  
your  
\Windows\SetupApi.log  
file  
look  
like  
after  
the  
new  
image  
deployment?  
In  
other  
words,  
what's  
the  
difference  
you  
can  
see  
in  
that

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

log  
file  
if  
you  
compare  
it  
before  
and  
after  
the  
new  
image  
install?

oh,  
my  
image  
is  
using  
NTFS,  
so  
i  
didn't  
format  
my  
disk,  
just  
write  
the

That's  
fine.  
You  
don't  
have  
to  
since  
you  
are  
transferring  
raw  
disk  
data.

image  
to  
it  
directly,

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will  
that  
cause  
this  
problem.

```
diskpart>select  
disk  
0  
diskpart>clean  
diskpart>create  
partition  
primary  
diskpart>selection  
partition  
1
```

Better  
make  
this  
partitioon  
active.

```
sdimg  
myimage.sdi  
/writedisk:0  
/yes
```

The  
approach  
is  
pretty  
dangerous  
since  
SDI  
doesn't  
deal  
with  
MBR  
properly.  
But  
since  
you  
got  
your  
image  
booted,  
it

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

is  
not  
an  
issue  
for  
you.  
What's  
the  
SDI  
file  
size?  
Did  
you  
try  
using  
Ghost  
or  
other  
cloning  
tools?  
Or,  
better,  
did  
you  
try  
formatting  
the  
target  
partition  
and  
[x]copying  
all  
the  
files  
and  
folders  
of  
your  
image  
over  
there?

--  
=====

Regards,  
KM

KM  
wrote:

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

mike,

That

is

a

bad

one.

I

suppose

you

already

looked

here:

<http://groups-beta.google.com/group>

Do

you

have

EWF

enabled

on

the

image?

What

mode

of

EWF

you

use?

Does

the

BSOD

screen

show

the

faulty

driver?

Were

there

any

errors

in

FBALog.txt?

Could

you

check

the

Ever

Viewer

log

to

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

see  
if  
any  
error  
appears  
there  
related  
to  
the  
BSOD?

I  
couldn't  
quite  
understand  
your  
second  
sentence.  
What  
you  
meant  
by  
"always  
include  
EWF  
in  
XPE  
image"?

Are  
you  
working  
with  
SP2?  
(EWF  
on  
SP1  
had  
some  
problems  
on  
certain  
MBs).

And,  
very  
good  
approach  
would  
be  
to

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connect  
to  
your  
target  
with  
a  
KD  
(Kernel  
Debugger,  
WinDbg)  
from  
another  
computer  
and  
catch  
the  
blue  
screen  
to  
investigate  
more  
the  
call  
stack.

--

=====  
Regards,  
KM

"mike-ca"  
<bosanovav1@xxxxxxxx>  
wrote  
in  
message  
[news:1162493295.151008.48440@x](mailto:news:1162493295.151008.48440@x)

sometimes  
when  
i  
reboot  
my  
XPE,  
i  
got  
blue  
screen  
with  
the  
message

Re: IRQL\_NOT\_LESS\_OR\_EQUAL and EWF

"IRQL\_NOT\_LESS\_OR\_EQUAL"

i  
googled  
this,  
someone  
suggest  
to  
always  
include  
EWF  
in  
XPE  
image  
to  
avoid  
this  
problem.  
is  
that  
true?  
i  
don't  
understand  
the  
connection  
here.  
can  
anyone  
explain  
this  
to  
me.

thanks!