Erledigt Edit DSDT table, nvidia GPU (MXM) DELL XPS one A2010

Beitrag von „tsalat“ vom 23. Juni 2017, 10:44

Hi everyone!

first of all, iam sorry not to write in German but its much easier to do this in english.

i spent lots of time by trying to solve an issue with a new GPU inside XPS A2010 (9600m GT 512DDR3) and i guess iam almost at the end The A2010 has an MXM II slot with an ATI HD2400 card inside and therefore its theoretical changeable but while plugging another GPU inside you got a black screen and so on... Anyway, i was chating with one guy who did some modding in the past and figure out that no MXM structure is inside the BIOS. Well, this means that the vBIOS of the ATI card was customized for the machine and no other vBIOS would work. He injected the MXM structure inside the BIOS and it was light . The screen went online with the BIOS with MXM structure but the fans (sys) are running full speed and if i install drivers for the card the screen goes black or distorted. Its not a driver issue, i tried at least 20x different drivers through 3x OS (XP, 7 and 10) but i noticed that the display is missing from the device manager after installing drivers or better, while the ATI card is plugged in, everything is working but when i plug the nVidia card the display is missing or wrongly detected with no EDID. Therefore the machine more likely refuse the new card due to missing mxm structure inside the DSDT table.

Well sounds easy, its not I tried to figure this out but i have no idea what to inject, what to change and so on inside the DSDT table. Hence, anyone has some experience with DSDT edit? - bellow link to the DSDT table.

Any suggestions, reference or help?

xpsone.3d-sphere.com/Files/M-020006, with MXM structure 26.zip (AMI CORE8)
xpsone.3d-sphere.com/Files/dsdt-ATI-24.zip

Tomas

Beitrag von „al6042“ vom 23. Juni 2017, 18:46

Hi and welcome the forum... 

Are we talking about getting an DSDT fixed to install macOS on that machine?
I don't even know if the hackintosh related patches, even to enter an EDID, will be of any use with any Windows version.

Beitrag von „tsalat“ vom 24. Juni 2017, 14:56

Thank you al6042

At this moment i have installed an MS OS (Win 10) on the machine but yes, i would like to try the macOS on it afterwards. I believe that if it would be solved under Win, it could also work for the macOS. I was searching across the internet for some clue but couldnt find any answer on my problem. I already got through the DSDT table several times and found two entriesreferring to a GPU, device VGA and device GFX0. Iam not sure which is the on board card (yes,it has also a onboard card) and which the ATI card (default one). Anyway, no entry about anyMXM structure an i believe this is the main problem. While MXM has to be dynamicallydetected because its changeable, i dont need to add an entry for the specific card but theentry for the MXM.... well sounds easy. I found some ACER laptop with MXM (i guess) insidethe DSDT... iam sure its not working like copy - paste but it could be used... or not.. Noexperience in this field

I think in Win you can force the load custom DSDT through registry... this could be a nicedebug method but first i need to know and figure out what to change...

Tomas

Beitrag von „al6042“ vom 24. Juni 2017, 15:34

GFX0 is the Graphics part of the CPU, if there is one integrated.
PEFP is the external Graphics part.

I never heard of MXM at all...
A way to override the DSDT in Windows can be read in here --> https://www.techinferno.com/in...override-to-fix-error-12/

Beitrag von „tsalat“ vom 25. Juni 2017, 11:02

Hi,

thats very useful to know about the GFX0 and therefore i can ignore this entry. I made a screenshot of the XPS DSDT with the part defining the ATI (original card), i think anyway, and also a part from one ACER DSDT where i guess is the MXM entry, see attached. I still cant figure out what the code means, i cant find any good documentation to that, but i think that replacing the VGA device/entry while keeping the LCDD could be a good way to go. Well, anyone?

here some info about the MXM slot: https://en.wikipedia.org/wiki/Mobile_PCI_Express_Module

Thank you for the link,,, i think its a good way how to test the custom DSDT afterwards.

Tomas

Beitrag von „al6042“ vom 25. Juni 2017, 12:27

Check out the attached DSDT which got the separation of IGPU (GMA950) and GFX0 (Nvidia 9600M)...

Beitrag von „tsalat“ vom 25. Juni 2017, 14:34

Hi al6042,

just to be sure, you edited my DSDT table, right? because this looks like something which could actually work! Thank you a lot! I will try it tomorrow and report back (i have the machine at work :)). thank you again!

Tomas

Beitrag von „al6042“ vom 25. Juni 2017, 14:39

Jup... the file is the result of patching your dsdt-ATI-24.dsl...
Good Luck!

Beitrag von „tsalat“ vom 26. Juni 2017, 08:21

Hi al6042,

tried to override the DSDT but got an BSOD at the end i also loaded the same DSDT to check if its working but loading the customized one cause BSOD...hmmm.. i guess that injecting inside the ROM will not do any difference, maybe brick the machine again any idea?

Beitrag von „al6042“ vom 26. Juni 2017, 09:54

It might help to install Clover as the Bootloader in which you might be able to inject the patched DSDT without messing up windows itself...

Beitrag von „tsalat“ vom 27. Juni 2017, 07:26

hi,

i made a bootable USB with Clover (legacy boot mode) but i cant boot to windows with it. After booting with Clover i see two HDD with Windows but both of them are returning "disk read error" after trying clicking on them. Maybe iam missing something. I made the USB under OS x, format for MAC OSx and choose legacy boot mode (i guess, because the AMI Core 8 BIOS is very old)... hmmm,,, do i miss something?

Beitrag von „tsalat“ vom 3. Juli 2017, 17:02

With some luck i installed the OSx there ,, enclosed the IORegistry report...http://xpsone.3d-sphere.com/Files/Tomalf iMac.zip

i have some issues right now with that, for example that without nv_disable=1 the screen is black, the network was working right now no, and so on but its there :)....

some questions at the beginning:

- if my network card is not listed in multibeast, should i install something which is near my HW? Intel(R) 82566DC-2
- if the screen is black by default, and inside clover the nvidia injection is checked, should i uncheck this?

Tomas

Beitrag von „al6042“ vom 3. Juli 2017, 17:50

Hi,
to answer all these questions, we should know all the components build into your laptop.
If you have OSX running, even without accelerated graphics, please create a screenshot from the "PCI List"-window of the app DPCI Manager.
This should contain any necessary details.

Also, please add the main components either in your signature or your profile, which you can

find in the segment "About me".
With that, all the other folks in here might be able to help in solving your issues.

Beitrag von „tsalat“ vom 4. Juli 2017, 07:47

Hi,

attached the screenshot and i also updated the information.

Beitrag von „al6042“ vom 4. Juli 2017, 08:14

Uh...
this seems to be a old board...
The last attempts to get the Intel 82566DC-2 Gigabit Network Controller running was on InsanelyMac in 2008 to 2010... those available Kext are used on Snow Leopard 10.6.x as the latest OSX version... you might be able to get it running with the following kext
--> https://osdn.net/projects/sfne...ppleIntelE1000e.kext.zip/

Your Wifi Card (Ven-Dev 14e4-4328) should work out-of-the-box...

Which version of OSX did you install?
Which tools did you use to install it?
The 9600M GT might not be supported in some newer releases... but the "Inject Nvidia" is definitely needed with that card.

Beitrag von „tsalat“ vom 4. Juli 2017, 08:37

Hi,

yes, its an old machine, but i love it the network is now running, the LAN to be specific, i have no opportunity to try the wifi right now.

I have used UniBeast 7.1.1 to install Sierra 10.12.5 and MultiBeast - Sierra 9.1.0 to install the bootloader (Clover v2.4 rev 4063) and also the kext for the network (i realized that it was inside Multibeast after your post.

Iam aware about the injection, at least i read about that :), at this moment iam starting the OSx with nv_disable=1. Inside clover there is nvidia injection checked but the HEX are just 0, so i guess its not doing anything. Iam very new in this, but starting to like it a lot

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Beitrag von „tsalat“ vom 10. Juli 2017, 11:46

Hi Al6042,

was thinking a lot about the GPU problem and refusing the new MXM card and i got an idea :). The AIO i have (A2010) had a bigger brother, XPS One 24, which had a slightly different HW (newer a bit i guess) and was able to take the 9600m GT from stock. I was looking at the bios in the past but today i also looked on the DSDT in the 24 version. My knowledge about the description table is very limited but i have compared the A2010 (dsdt-ATI-24.zip) and 24 (dsdt-A2410.zip) DSDT between each other and they are pretty similar :). My personal guess is that if its really in the DSDT (i really hope so), the adaptation of the 24version DSDT or copying some parts could solve the issue... The problem is i have no idea what to leave or what to copy
Do you have time to look on the DSDT tables if there is something which could help me?

xpsone.3d-sphere.com/Files/dsdt-A2410.zip
xpsone.3d-sphere.com/Files/dsdt-ATI-24.zip

Beitrag von „al6042“ vom 10. Juli 2017, 13:45

Maybe later this week...

Beitrag von „tsalat“ vom 14. Juli 2017, 06:42

Thank you Al6042, appreciate it!

Beitrag von „tsalat“ vom 2. August 2017, 21:00

Hi, made it it was a bit more difficult but at the end simple like hell. I add the mxm structure according to mxm specification and also pushed the EDID information into the DSDT, made it smaller, inject into BIOS, working

Thank you for your help, T

Beitrag von „al6042“ vom 2. August 2017, 21:09

Nicely done... Congrats!!!
would you mind uploading the resulting DSDT?
I would like to take a look, if you don't mind.

Beitrag von „tsalat“ vom 2. August 2017, 22:39

Sure, will do tomorrow

edit: because i cant add a new "reply" to this thread :), i will just edit the last one and describe

a bit what i did to make it work. In the first place, the XPS A2010 which is was modding has an MXM II slot but no entry about the MXM structure inside system BIOS. The reason why its not there is because they modified the video BIOS of the default ATI card to inject this while loading the vBIOS into the memory. Therefore there wasnt anything mentioned about the MXM interface in the DSDT as well, thats logicaly why it should be there in the first place

Hence, i had to modify all these to make it work. One user injected the MXM structure inside the system BIOS according to the MXM specification 2.1. Wasnt so hard i believe but you need to place there appropriated callbacks for the BIOS to load these, this is something which i cant explain more to be honest. The MXM structure consists from information like the interfaces to which the card can push the signal (internal LCD and so on), maximum power, maximum cooling capabilities and so on. Right after the MXM structure, EDID for the LCD can be add if the LCD doesnt have EDID pins to identify himself. Well, this was the part which add absolutely new feature to the system BIOS and the new card started to work with 3 major problems:

- The performance was set to throttling
- The picture was ok without the drivers but bad, and i mean really like distorted signal, after installing the drivers
- The fans were all the time at full speed (system and CPU)

Now, the first two problems are a DSDT issue. Because no MXM structure was present before no was added to the description table. Problem is that the DSDT table has some length. IF you want to inject it back to the SBIOS it has to be the same size or smaller. I was lucky because the XPS has a on-board GPU as well. Well, i deleted it from the DSDT table to make room together with some OS entries. The on-board GPU is in this case never active, even with the default DSDT, and therefore no sense to keep it there. After making room i added the MXM structure according to the MXM specification, you can compare both *.dsl files which are attached to see the changes. The MXM structure has an buffer which is equal to the structure which was injected to the SBIOS. This solved the performance problem. To solve the LCD problem i added the _DDC method to the LCD and created an buffer with the EDID of the LCD. This solved the LCD problem.

Now, the fans were a bit more tricky. The DSDT doesnt have any Thermalzone and neither embedded controllers inside. Therefore the DSDT cant be the problem. The SBIOS could have some white list but no error at all. After some time i realized that the Fintek microchip which should control the fans is not used for that but instead Intel QST is controlling it. Well, dammit The Intel ME is not a part of the SBIOS but, i was lucky here, i found tools which could manipulate with the QST config. I looked on the status and realized that while changing the GPU the address of the fan changed and therefore the QST was in an emergency mod and set all fans to 100%. Well, dumped the settings, removed the GPU sensor and its done

i hope that this will help someone  Tomas