Introduction

According to [Guide] Alternative to the minStolenSize patch with 32mb DVMT-prealloc, "[a] common problem with Broadwell/Skylake/KabyLake is relatively small DVMT-prealloc setting by PC OEMs. The Apple framebuffer kexts generally assume 64mb or larger, and most PC OEMs use only 32mb." In this way, we patch the framebuffer to fit within the 32mb DVMT-prealloc in the build.

However, I found that 32mb DVMT seems doesn't support 4K display even with `-cdfon` boot argument in the XiaoMi-Pro case. Set DVMT to 64mb and remove some framebuffer patches could let our hacks natively support 4K.

ATTENTION: HDMI ports use HDMI 1.4 protocol, which means only support 4K 30Hz HDMI.

How to Install

- TM1701
- TM1905

TM1701

Cyb and FallenChromium created script to set DVMT. Please download DVMT_and_0xE2_fix and read README to set DVMT to 64mb.
After running those scripts, you need to remove some framebuffer patches:

- **For both Clover and OC users:**
- Open `/EFI/CLOVER (or OC)/config.plist`, delete the following code and restart:

```
<key>framebuffer-fbmem</key>
<data>AACQAA==</data>
<key>framebuffer-stolenmem</key>
<data>AAAwAQ==</data>
```

  - Then edit the `framebuffer-flags` to enable `FBEnableDynamicCDCLK`

```
  <key>framebuffer-flags</key>
- <data>CwfDAA==</data>
+ <data>CwfjAA==</data>
```

  - Optional, change `ig-platform-id` to `0x05001c59` (macOS version > 10.14) to enhance graphic performance

```
  <key>AAPL,ig-platform-id</key>
- <data>AAAWWQ==</data>
+ <data>BQAcWQ==</data>
  <key>AAPL,slot-name</key>
  <string>Internal</string>
  <key>complete-modeset-framebuffers</key>
  <data>AAAAAAAAAE=</data>
  <key>device-id</key>
  <data>FlkAAA==</data>
  <key>force-online</key>
  <data>AQAAAA==</data>
  <key>force-online-framebuffers</key>
  <data>AAAAAAAAAE=</data>
- <key>framebuffer-con0-enable</key>
- <data>AQAAAA==</data>
- <key>framebuffer-con0-flags</key>
```

```
-    <data>mAQAAA==</data>
     <key>framebuffer-con1-enable</key>
     <data>AQAAAA==</data>
-    <key>framebuffer-con1-flags</key>
-    <data>xwMAAA==</data>
     <key>framebuffer-con1-pipe</key>
     <data>CgAAAA==</data>
     <key>framebuffer-con1-type</key>
     <data>AAgAAA==</data>
     <key>framebuffer-con2-enable</key>
     <data>AQAAAA==</data>
-    <key>framebuffer-con2-flags</key>
-    <data>xwMAAA==</data>
```

TM1905

The following table is about some advanced BIOS configurations, thanks to htmambo.

Item	Address	Configuration	Options	Default	Reco
RTC	0x54A	SETUP	0x0:ACPI Time and Alarm Device; 0x1:Legacy RTC	0x0	0x1
DVMT	0x107	SaSETUP	0x0:0M, 0x1:32M, 0x2:64M	0x1	0x2
DVMT Total Gfx Mem	0x108	SaSETUP	0x1:128M, 0x2:256M, 0x3:Max	0x3	0x3
CFG LOCK	0x3E	CpuSetup	0x0:Disabled, 0x1:Enabled	0x1	0x0
MSR LOCK	0x2B	SETUP	0x0:Disabled, 0x1:Enabled	0x0	0x0
BIOS Lock	0x17	SETUP	0x0:Disabled, 0x1:Enabled	0x1	0x0

After modifying these configurations, you need to delete `framebuffer-stolenmem` in `config.plist`: - Open `/EFI/CLOVER (or OC)/config.plist`, delete the following code:

```
<key>framebuffer-stolenmem</key>
<data>AADgAQ==</data>
```

Credits

- Rehabman
  - [Guide] Alternative to the minStolenSize patch with 32mb DVMT-prealloc
- Cyb and FallenChromium for efforts on 8th Gen model
- htmambo for efforts on 10th Gen model