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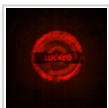


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Power management for Sandy/Ivy Bridge/Haswell CPUs

Started by Pimentel, Jan 25 2014 07:27 PM

Chameleon, CPU, SSDT, AICPUMP patch, Sandy Bridge, Ivy Bridge, Power Management,

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Pimentel

Posted 25 January 2014 - 07:27 PM

Hello folks!

GUIDE UPDATED - Added support for 10.10 XCPM kernel



First of all it is very good that we have an updated version of Chameleon, so please take this most updated version right here in the official thread:

<http://www.insanelymac.com/forum/files/download/59-chameleon-22-svn/> (http://translate.googleusercontent.com/translate_c?depth=1&hl=pt-BR&ie=UTF8&prev=t&rurl=translate.google.com.br&sl=pt-BR&tl=en&u=http://www.insanelymac.com/forum/files/download/59-chameleon-22-svn/&usg=ALkJrhjTikLjeoBI4oQLyhbJdh8kXKoAXA)

Since 10.7.4 for CPUs and SandyBridge IvyBridge P and C States - **that are responsible for the proper functioning of energy** - are no longer provided by Chameleon, in others words, only activate GeneratePStates and GenerateCStates doesn't work any more.

A quick exit is to use the next NullCPUPowermanagement, **but I don't recommend continued use of this next because it disables**

AppleIntelCPUPowermanagement kext which is responsible for power management

The most viable and recommended solution that will give to you a good power management is the creation of a SSDT which will contain all P-States and C-States.

Step-by-Step

Creating the SSDT

Create your SSDT based on the script Pike R. Alpha

Run these commands in terminal

```
curl -o ~/ssdtPRGen.sh https://raw.githubusercontent.com/Piker-Alpha/ssdtPRGen.sh/master/ssdtPRGen.sh
chmod +x ssdtPRGen.sh
./ssdtPRGen.sh
```

After you run it you need to put the **Maximum Frequency** and **Maximum TDP** of your CPU ... see these information about your CPU in here:

<http://ark.intel.com/> (http://translate.googleusercontent.com/translate_c?depth=1&hl=pt-BR&ie=UTF8&prev=t&rurl=translate.google.com.br&sl=pt-BR&tl=en&u=http://ark.intel.com/&usq=ALkJrhizC3chrWPHK2Nvcq8-RZnBHRVSTO)

This is an example of one **i7 2600** that has **3800MHz(3.8 Ghz)** of maximum frequency and **95** of TDP

```
sudo ./ssdtPRGen.sh 3800 95
```

Place the SSDT in **Extra** folder and rename ssdt_pr for SSDT

Note: Some CPUs are auto-detected by the script, the script just now detects the maximum frequency and TDP, so if simply after running the first command you are prompted to save the SSDT in Extra folder(**not asking to enter your max frequenc. and TDP as the guide teach**),**don't worry about it, just to confirm, because the script already detected everything and created the SSDT and the time is already asking to save the file.**

Patch AppleIntelCPUPowermanagement

In older mobos is necessary to patch the kext AICPUPM to enable recording in Bios, otherwise you will get a kernel panic because it can't write to the Bios ...

Download the patch: [AICPUPMpatch \(http://olarila.com/apps/AICPMPatch.zip\)](http://olarila.com/apps/AICPMPatch.zip)

Run in terminal

```
cd ~/Downloads/AICPMPatch
```

Just find and list ...

```
sudo perl AICPMPatch.pl /System/Library/Extensions/AppleIntelCPUPowerManagement.kext/Contents/MacOS/AppleIntelCPUPowerManagement
```

Then give patch in wrmsr to enable recording in Bios

```
sudo perl AICPMPatch.pl /System/Library/Extensions/AppleIntelCPUPowerManagement.kext/Contents/MacOS/AppleIntelCPUPowerManagement --
```

After that you need to update the cache

```
sudo touch /System/Library/Extensions
```

Kernel Patch for Haswell CPU(Kernel XCPM)

Since version 10.8.5 a new kernel was implemented on OSX, he called XNU kernel(XNU CPU Power Management(xcpm)).

This kernel has the power management moved down into it, in past we used AppleIntelCPUPowermanagement kext to control power management and some Bios were locked, in others words, were not allowed to write information on it, so the patch was created for kext AICPUPM to solve this problem (see above how to patch the kext AICPUPM).

But with the power management moved down into the kernel(XNU kernel) AICPUPM the kext isn't loaded and so the same mistake that we were having in the past with AICPUPM kext(Kernel Panic)are having now with the XNU kernel in some models CPU haswell(mainly in portable models, some Desktop models doesn't need patch)

To solve this problem it is necessary **to patch the kernel**.

For **10.10** you need Open the terminal and type:

```
cd /Volumes/Name of your HDD/System/Library/Kernels/
```

Note that **in 10.10 kernel directory was changed**. Copy this perl code **is for 10.10 version**, put line by line

```
sudo perl -pi -e 's|\xe2\x00\x00\x02\x00\x00\x00|\x00\x00\x00\x02\x00\x00\x00|g' kernel
sudo perl -pi -e 's|\xe2\x00\x00\x00\x4c\x00\x00\x00|\x00\x00\x00\x00\x4c\x00\x00\x00|g' kernel
sudo perl -pi -e 's|\xe2\x00\x00\x00\x90\x01\x00\x00|\x00\x00\x00\x00\x90\x01\x00\x00|g' kernel
```

For **10.9.x** and **10.8.5** you need run this command in terminal: