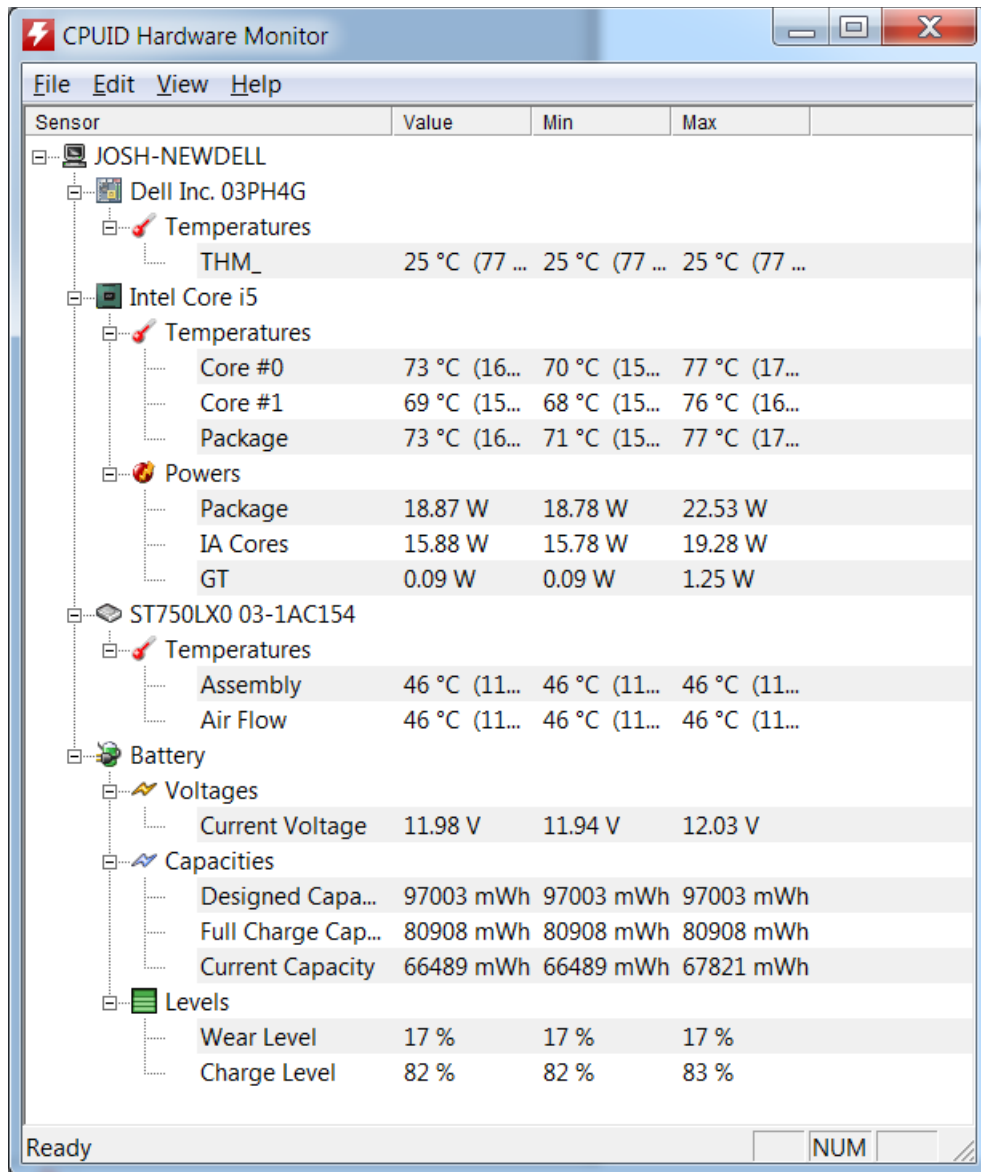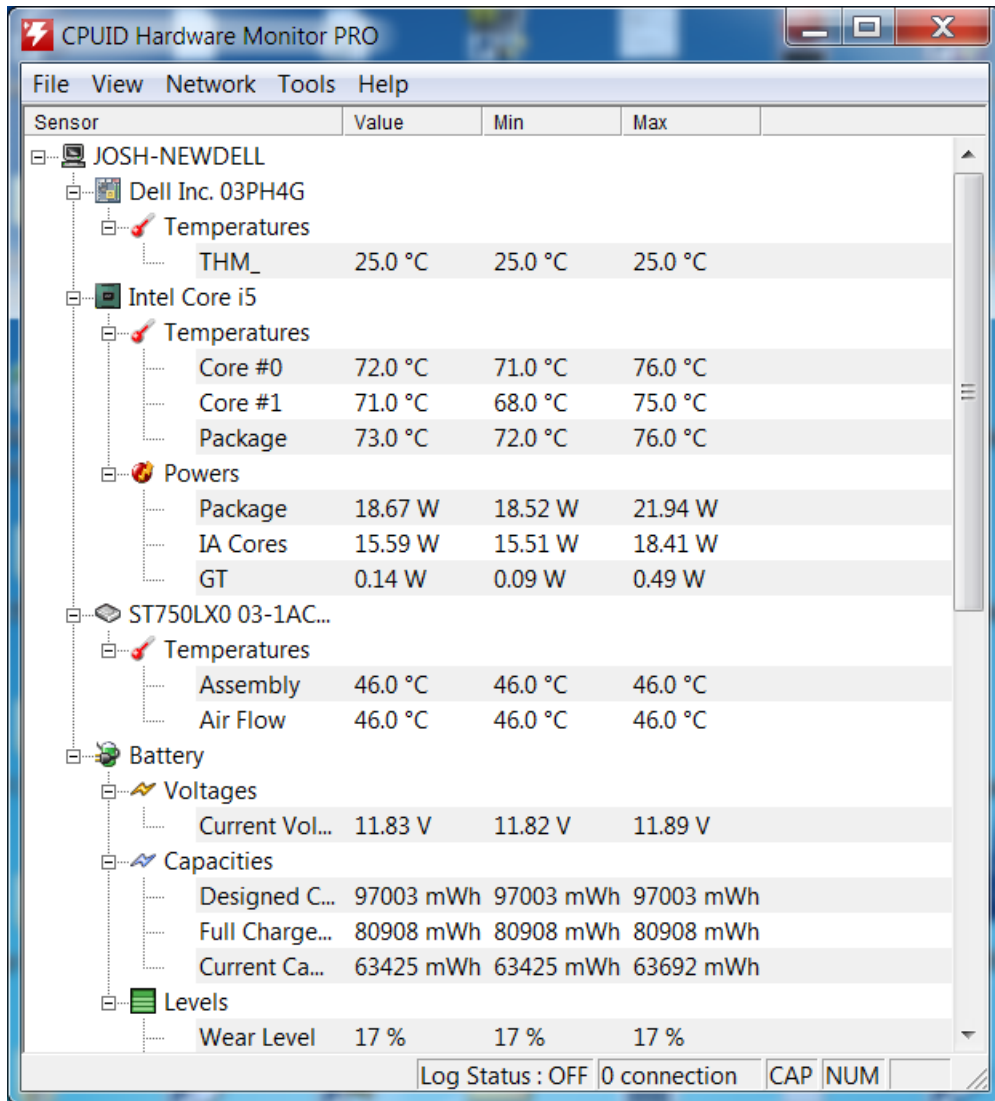Some time ago I wrote an article about CPUID's wonderful tool, HWMonitor. Today I want to follow up on that and give a few tips on how to make it a more useful tool. Firstly, HWMonitor is a free tool. CPUID publishes a Professional version of the product, predictably named HWMonitor Pro. I highly recommend the Pro version of this excellent tool. The full license gives two very important functions: remote monitoring, and graphical logging. There are a few UI improvements as well, such as the ability to dock the sensors in the System Tray, rather than leaving the program running minimized in the taskbar. There are fancier monitoring programs, but if you are looking to remotely monitor temperature (and other metrics) of many stations on the cheap, this is a very good option.


Sensor	Value	Min	Max	
JOSH-NEWDELL				
Dell Inc. 03PH4G				
Temperatures				
THM_	25 °C (77 ...	25 °C (77 ...	25 °C (77 ...	
Intel Core i5				
Temperatures				
Core #0	73 °C (16...	70 °C (15...	77 °C (17...	
Core #1	69 °C (15...	68 °C (15...	76 °C (16...	
Package	73 °C (16...	71 °C (15...	77 °C (17...	
Powers				
Package	18.87 W	18.78 W	22.53 W	
IA Cores	15.88 W	15.78 W	19.28 W	
GT	0.09 W	0.09 W	1.25 W	
ST750LX0 03-1AC154				
Temperatures				
Assembly	46 °C (11...	46 °C (11...	46 °C (11...	
Air Flow	46 °C (11...	46 °C (11...	46 °C (11...	
Battery				
Voltages				
Current Voltage	11.98 V	11.94 V	12.03 V	
Capacities				
Designed Capa...	97003 mWh	97003 mWh	97003 mWh	
Full Charge Cap...	80908 mWh	80908 mWh	80908 mWh	
Current Capacity	66489 mWh	66489 mWh	67821 mWh	
Levels				
Wear Level	17 %	17 %	17 %	
Charge Level	82 %	82 %	83 %	

Free Version

CPUID Hardware Monitor PRO			
File View Network Tools Help			
Sensor	Value	Min	Max
□ 🖳 JOSH-NEWDELL			
└ □ 🖼 Dell Inc. 03PH4G			
└ □ 🌡 Temperatures			
└ THM_	25.0 °C	25.0 °C	25.0 °C
□ ▣ Intel Core i5			
└ □ 🌡 Temperatures			
└ Core #0	72.0 °C	71.0 °C	76.0 °C
└ Core #1	71.0 °C	68.0 °C	75.0 °C
└ Package	73.0 °C	72.0 °C	76.0 °C
└ □ 🔥 Powers			
└ Package	18.67 W	18.52 W	21.94 W
└ IA Cores	15.59 W	15.51 W	18.41 W
└ GT	0.14 W	0.09 W	0.49 W
□ ◇ ST750LX0 03-1AC...			
└ □ 🌡 Temperatures			
└ Assembly	46.0 °C	46.0 °C	46.0 °C
└ Air Flow	46.0 °C	46.0 °C	46.0 °C
□ 🔋 Battery			
└ □ 〰 Voltages			
└ Current Vol...	11.83 V	11.82 V	11.89 V
└ □ 〰 Capacities			
└ Designed C...	97003 mWh	97003 mWh	97003 mWh
└ Full Charge...	80908 mWh	80908 mWh	80908 mWh
└ Current Ca...	63425 mWh	63425 mWh	63692 mWh
└ □ ▤ Levels			
└ Wear Level	17 %	17 %	17 %

Log Status : OFF | 0 connection | CAP | NUM

Pro Version. Note the new Log Status box.

The graphs that HWMonitor Pro produces are high quality and very detailed. Graphs will be generated for every sensor that HWMonitor reads from, which means that you can have a graph of everything over time from the charge level of your battery to the power draw of your CPU.
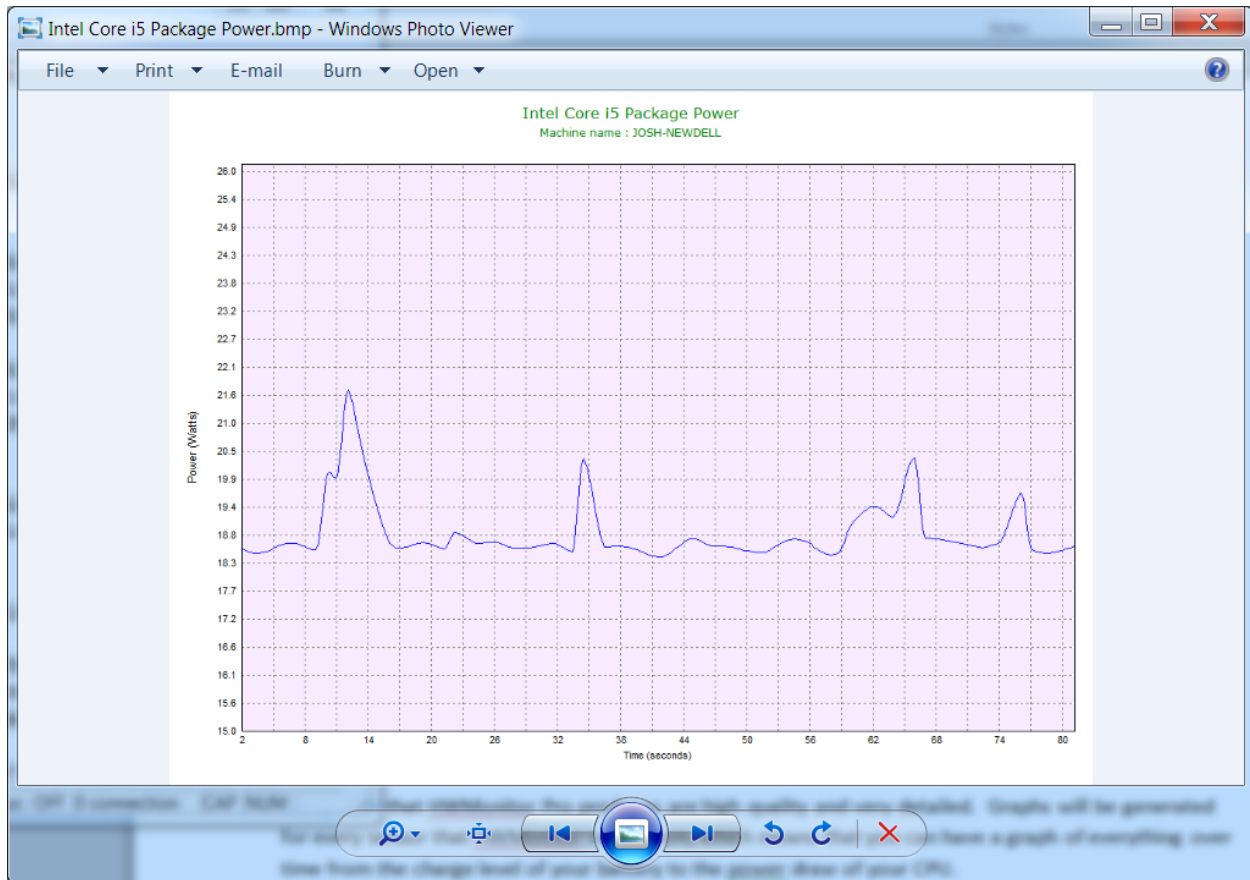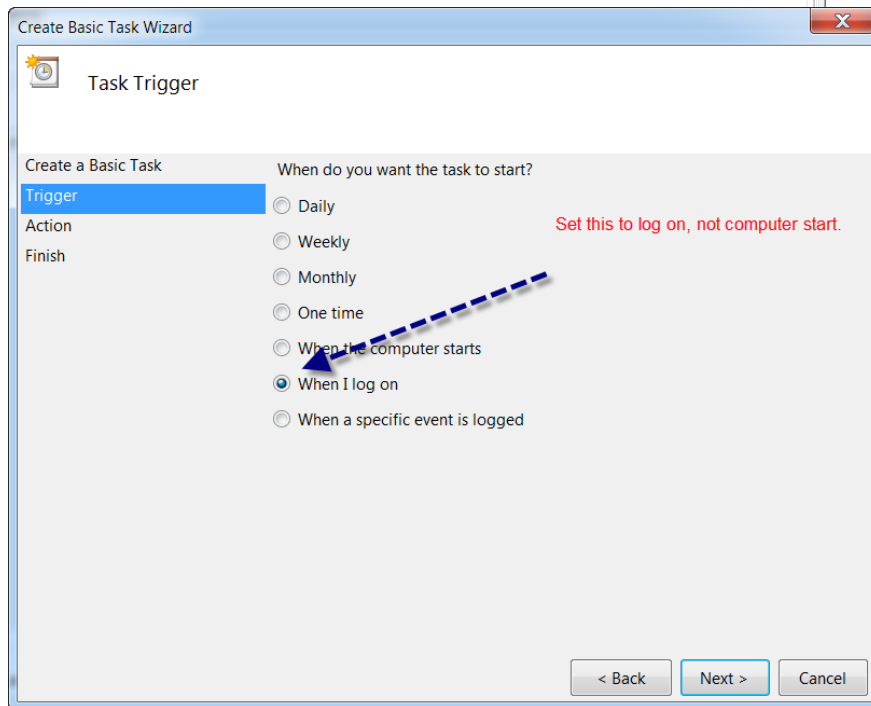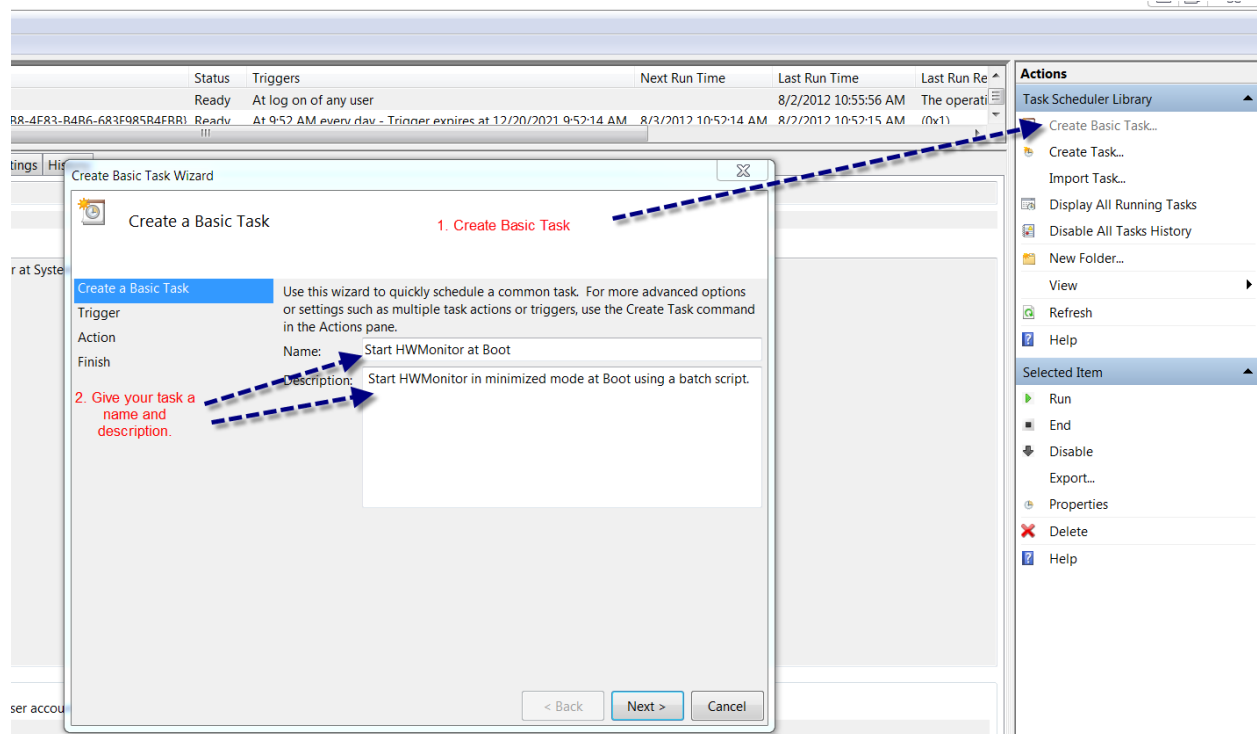
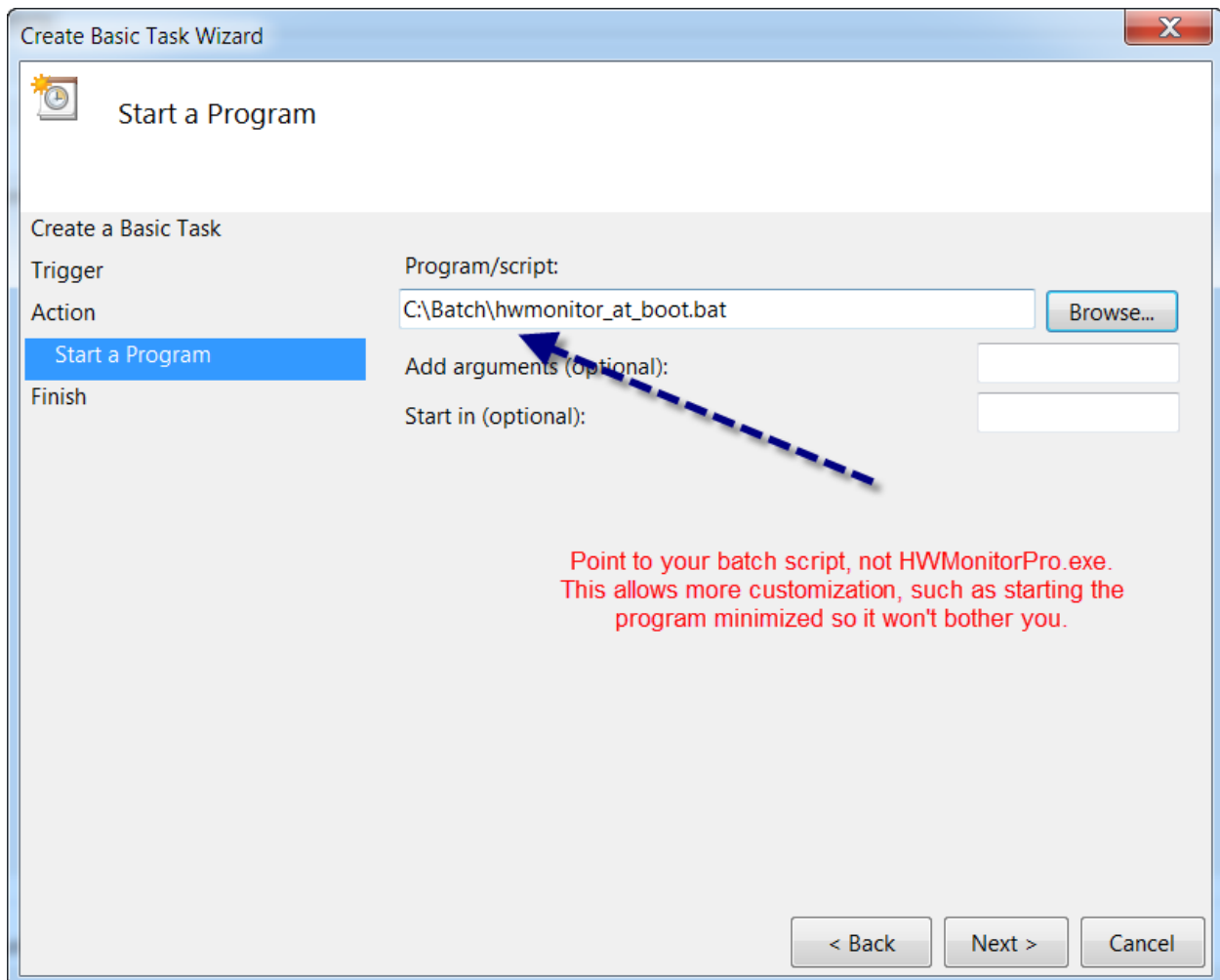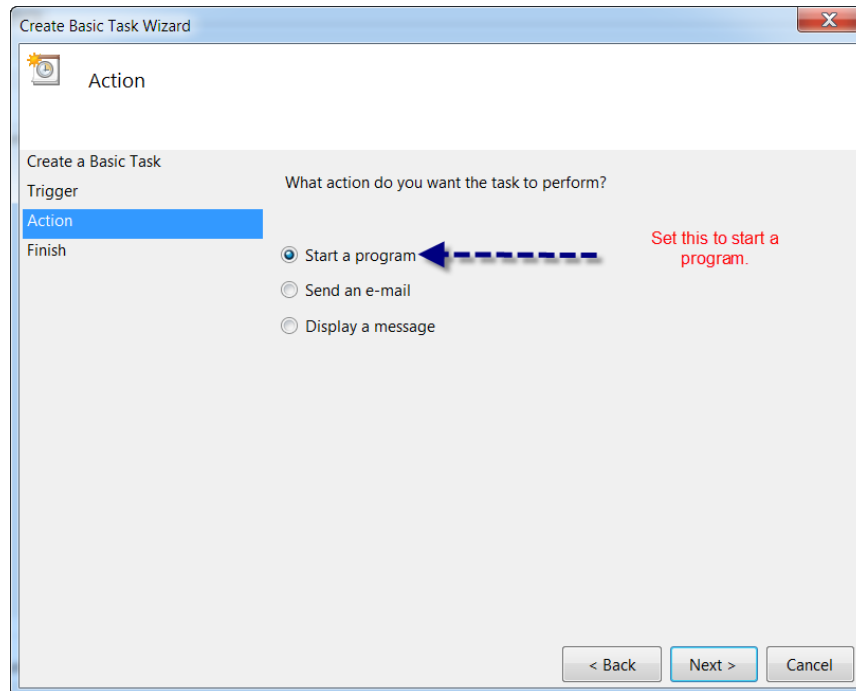Here is the graph of my CPU's power usage over time.

With this logging feature, the true power of your computer's sensors are unleashed. When I started my computer this morning to write this article, I noticed that my CPU temperatures were a little higher than I would like. They had actually topped 80C. I was curious: was this just a recent spike due to activity, or had there been a gradual creep upwards over time, which would indicate a problem in the making? With the Pro version, I would know this for certain, as I would have had logs available that would have gone back months if I had so chosen to set them up that way.
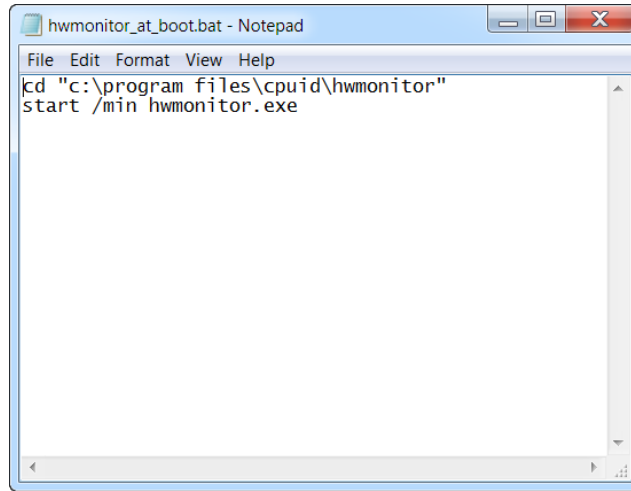
In order to make the most of this program, you will want to do two things. First, you will want to launch the program at startup, so that data is being monitored at all times while your computer is on. Second, you will want it to launch minimized (or at least I prefer it that way) so that it won't get in your way. Ideally, both those tasks will be automated so that you don't have to remember to do it. This is easily accomplished with the free or the pro version, and I will show you how to do so.

To accomplish this, we turn to our friend the Task Scheduler. For those of you who may not remember, Task Scheduler is accessible from Start>All Programs>Accessories>System Tools>Task Scheduler or by Control Panel>Administrative Tools>Task Scheduler. Create a basic task. I have made

screenshots below to guide those unfamiliar with this process. I wrote a simple batch script which I use Task Scheduler to call at system startup. There is a screenshot later on that shows what it contains.
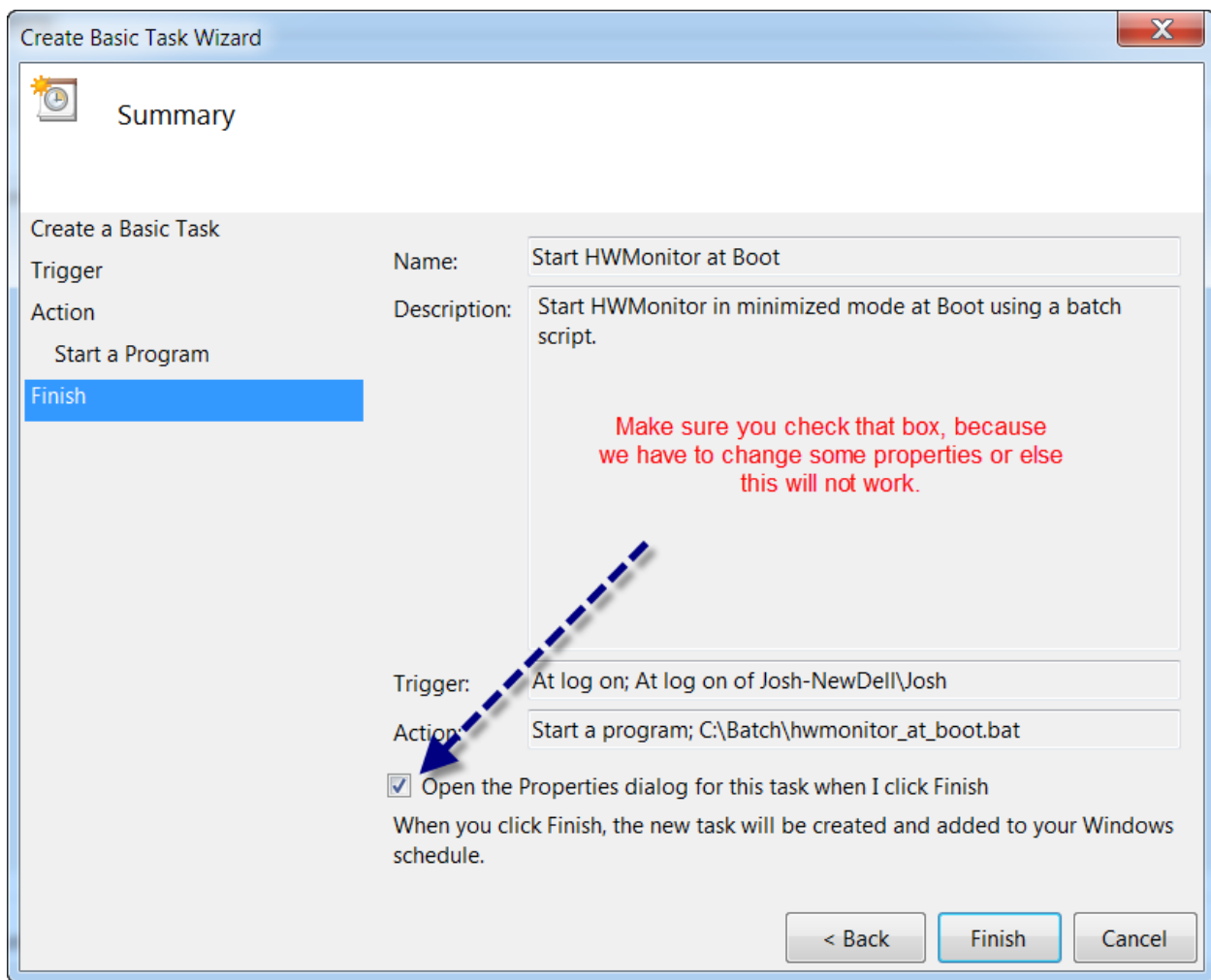
Create Basic Task Wizard

Action

Create a Basic Task
Trigger
Action
Finish

What action do you want the task to perform?

○ Start a program ◄---- Set this to start a program.
○ Send an e-mail
○ Display a message

< Back | Next > | Cancel

Create Basic Task Wizard

Start a Program

Create a Basic Task
Trigger
Action
Start a Program
Finish

Program/script:

`C:\Batch\hwmonitor_at_boot.bat` | Browse...

Add arguments (optional):

Start in (optional):

Point to your batch script, not HWMonitorPro.exe.
This allows more customization, such as starting the
program minimized so it won't bother you.

< Back | Next > | Cancel

My batch file.

Create Basic Task Wizard

Summary

Create a Basic Task
Trigger
Action
   Start a Program
Finish

Name: Start HWMonitor at Boot

Description: Start HWMonitor in minimized mode at Boot using a batch script.

Make sure you check that box, because we have to change some properties or else this will not work.
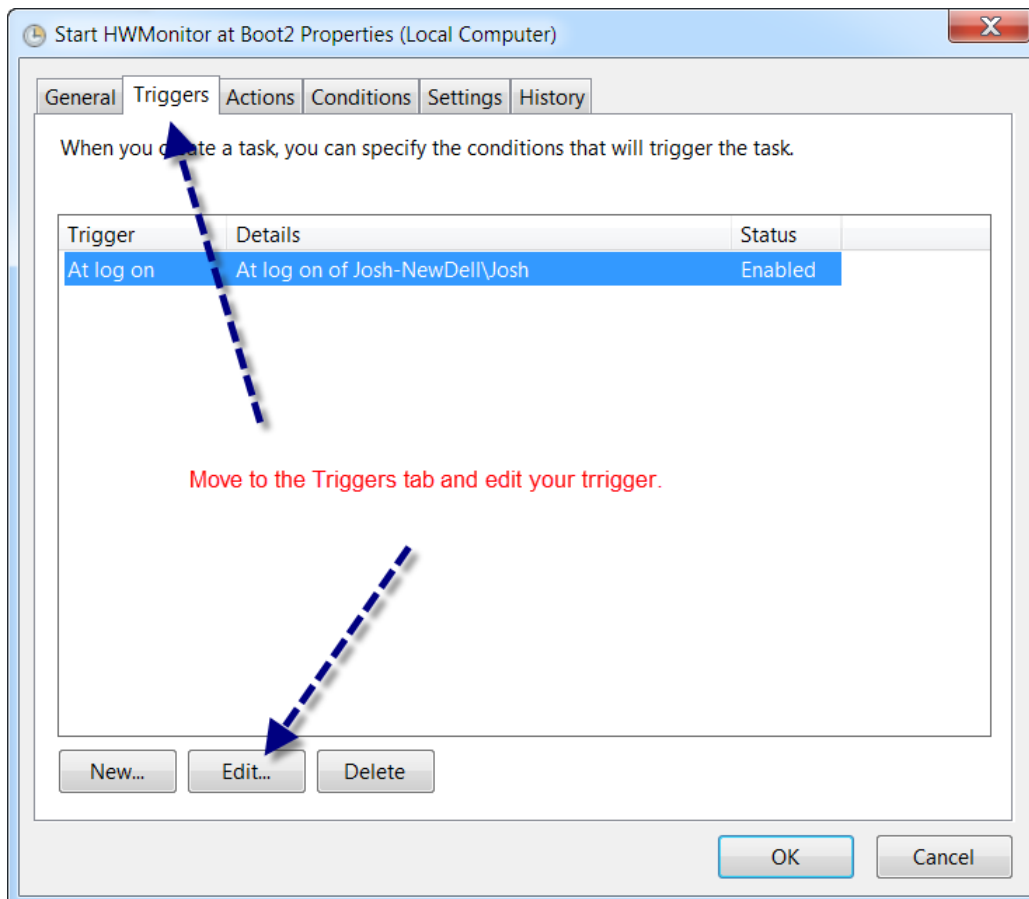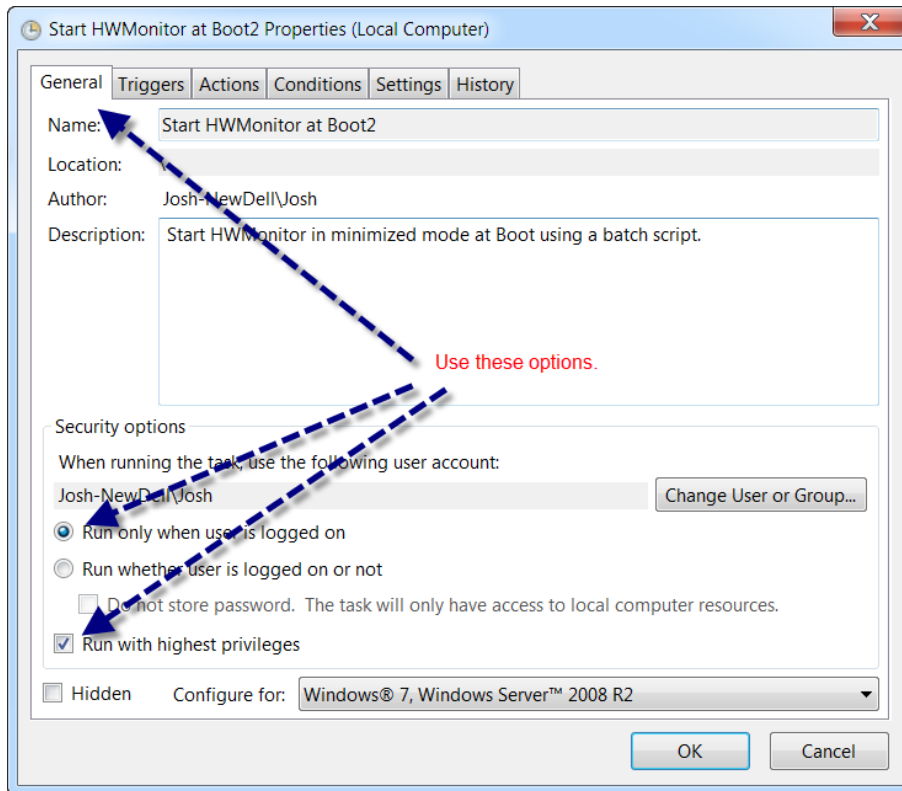
Trigger: At log on; At log on of Josh-NewDell\Josh

Action: Start a program; C:\Batch\hwmonitor_at_boot.bat

☑ Open the Properties dialog for this task when I click Finish

When you click Finish, the new task will be created and added to your Windows schedule.

< Back   Finish   Cancel

Start HWMonitor at Boot2 Properties (Local Computer)

General | Triggers | Actions | Conditions | Settings | History

Name: Start HWMonitor at Boot2

Location:

Author: Josh-NewDell\Josh

Description: Start HWMonitor in minimized mode at Boot using a batch script.

Use these options.

Security options

When running the task, use the following user account:

Josh-NewDell\Josh   Change User or Group...

◉ Run only when user is logged on

○ Run whether user is logged on or not

☐ Do not store password. The task will only have access to local computer resources.

☑ Run with highest privileges

☐ Hidden   Configure for: Windows® 7, Windows Server™ 2008 R2

OK   Cancel

Start HWMonitor at Boot2 Properties (Local Computer)

General | Triggers | Actions | Conditions | Settings | History

When you create a task, you can specify the conditions that will trigger the task.

Trigger	Details	Status
At log on	At log on of Josh-NewDell\Josh	Enabled

Move to the Triggers tab and edit your trrigger.

New...   Edit...   Delete

OK   Cancel

Edit Trigger

Begin the task: At log on

Settings

○ Any user

● Specific user: Josh-NewDell\Josh   [Change User...]

I recommend delaying the task for a minute after log on. Adjust if desired. Also make sure that it is enabled.

Advanced settings

☑ Delay task for: [1 minute ▾]

☐ Repeat task every: [1 hour ▾]   for a duration of: [1 day ▾]

　☐ Stop all running tasks at end of repetition duration

☐ Stop task if it runs longer than: [3 days ▾]

☐ Activate: [8/ 2/2012 ▾]   [11:35:13 AM ▾]   ☐ Synchronize across time zones

☐ Expire: [8/ 2/2013 ▾]   [11:35:13 AM ▾]   ☐ Synchronize across time zones

☑ Enabled

[OK]   [Cancel]

Start HWMonitor at Boot2 Properties (Local Computer)

General | Triggers | Actions | Conditions | Settings | History

Specify the conditions that, along with the trigger, determine whether the task should run. The task will not run if any condition specified here is not true.

Idle

☐ Start the task only if the computer is idle for: [10 minutes ▾]

　Wait for idle for: [1 hour ▾]

　☑ Stop if the computer ceases to be idle

　　☐ Restart if the idle state resumes

Power

☐ Start the task only if the computer is on AC power

　☑ Stop if the computer switches to battery power

☐ Wake the computer to run this task

Very important! Make sure this is NOT selected, or the task will fail to run on a laptop that starts in battery mode.

Network

☐ Start only if the following network connection is available:

[Any connection ▾]

[OK]   [Cancel]

And we're done! HWMonitor/HWMonitorPro will now be automatically started when you start your computer, and it will start minimized so that it won't bug you. Now, one last note about logging functionality: Unfortunately, the Pro version of the program does not have an option to begin logging data at application start. There is no CLI available for the program either, so it cannot be simply scripted (else I would have added a switch to my batch file). This slightly hampers automation, but there is a workaround. The workaround is to have a computer somewhere on the network running it, and have your computer start HWMonitor Pro in listening mode (there is an option to always start in listening mode), so that it will send its sensor data to the monitoring station it is connected to. This monitoring station would be set to continuously log all data sent to it. The data collection server can choose where to place the logs, so it could even be stored in a shared network folder if desired. Then, any time the data is needed, the logging can be stopped and saved, and the graphs are readily available for those who need to see them.

At one company I worked for, we had a serious problem with desktops overheating and dying due to the harsh environment. It wasn't really feasible for me to check all 150 of them on any sort of timely schedule, so sometimes I wouldn't catch the problems in time which cost us downtime and replacement parts. If I had known about this tool at the time and deployed it, I could have inspected all of the desktops at a glance in the morning, and possibly saved us thousands of dollars. Hopefully this tool can help someone else!