



**ENERGY STAR® Computer Program
Computer Usage Data Collection Procedures
February 18, 2008**

Procedure Overview

In support of the ENERGY STAR Computer Specification Development effort, EPA has compiled the following guide to cover the collection of computer usage data by interested stakeholders. This document contains installation instructions for two programs provided by industry to collect this information: UTrack and PC Usage. Download links for each program are included in sections I and II. UTrack collects detailed information on processor power states along with data on the presence of keyboard or mouse activity; PCUsage collects information on processor and memory activity as well as program activity. A sample of each data output format is included along with installation instructions in this guide. Stakeholders should upload collected data to <ftp://ftp.terraviva.com/compspec/> - please see section 3 of this document for further details.

At this time, the data collection effort is limited to Windows based systems based on the tools provided by industry to date. Data for consideration in the Computer Specification Revision process will be due no later than March 26, 2008. Please contact Evan Haines, ICF International, at ehaines@icfi.com with questions.

Contents

I. UTrack Installation and Data Collection	2
II. PCUsage Installation and Data Collection	4
III. Data Submission	6

I. UTrack Installation and Data Collection

General Notes

UTrack is available online at <http://terravum.com/projects/energystar/usage/UTrackSetup.zip>.

Please keep track of the machines you install this software on and go back and completely remove this software when data collection is complete. It generates a great deal of data and will fill up a user's hard drive quickly.

In this data collection procedure, we intend to collect at least 30 days worth of usage data. This will correspond to roughly 70MB worth of data per month. Note that UTrack and the corresponding data file collect information regarding CPU activity (workload, power state, and frequency) and a very low level idea of the user input that caused it (through mouse or keyboard activity). No data regarding the programs being run or specific keystrokes and mouse clicks is collected. Below are two sample lines of data:

Local Time	CPU0 Percent C1 Time	CPU0 Percent C2 Time	CPU0 Percent C3 Time	CPU0 Percent C0 Time	CPU0 Percent Idle Time	CPU0 Percent User Time	CPU0 Percent Kernel Time	CPU0 Frequency	[Fields for other CPU Cores]	Mouse Clicks	Mouse Movement	Key Clicks	Power Status	Power Events
10:01.9	64	0	0	34	65	28	6	2657	...	0	0	0	1	15
10:02.9	98	0	0	0	100	0	0	2657	...	0	0	0	1	15
32:08.6	86	0	0	10	89	7	3	2657	...	1	1	0	1	15

UTrack Installation

1. Open the zip file "UTrackSetup.zip."
2. Double click on the UTrackSetup.msi file **using password "intel" when prompted.**
3. Chose the default installation location when prompted (should be "\Program Files\Intel\UTrack")
4. Begin the software installation and make sure program is installed for "Everyone."
5. The installation should complete and exit.
6. Enable automatic loading of the program at startup. To do this, select Start -> Programs -> UTrack -> Scheduler. A window will open and close automatically when the process is complete.
7. You now need to start the application for the first time. To do this, select Start -> Programs -> UTrack -> UTrack.
8. It is now running. You need to repeat step 7 for all users who log into this machine. This is especially important for machines that have been setup with multiple logins. This is most prevalent on residential and family machines. Log files will automatically be created in the directory "\Intel\UTrack\Log Files."
9. Note: When UTrack sets up that scheduled task and when it begins to flush the data it is collecting to disk, some AV products will prompt the user to accept these actions. Monitor the system (or continue actively using it) long enough to watch for and accept these actions; roughly 5 minutes should suffice.
10. No further action is required until the end of the test period (at least 30 days). The program is set to track computer activity automatically at startup. Please refer to the section below once the test period is complete.
11. Note: Be aware that if something goes wrong with the application's startup, the user may be prompted to start the application manually after that. They should say yes to this prompt.

Data Collection

12. At the end of the test period, go back and uninstall the software. This is done by opening the control panel and clicking on "Add/Remove Programs". Find "UTrack", highlight it and select remove. Follow the prompts and select defaults when answering any questions. The program may not fully be uninstalled until the system is restarted.

13. Open the UTrack directory specified in step 3, and you will see a folder called "Log Files". Rename the folder to the name of the machine you are on. To find computer name, open control panel and click on "System." There is a tab for Computer Name.
14. Start up the Windows System Information Tool (msinfo32.exe). It should be located in the Start Menu under "Programs\Accessories\System Tools" or you can type "msinfo32.exe" from the command line; it is also accessible from UTrack utility's application menu.
15. After the Windows System Information Tool is fully populated, highlight "System Summary" on the left hand side.
16. Select "File" and press "Save..." from the file menu at the top. Save a copy of the Windows System Information Tool output in *.NFO format (the default).
17. Export a copy as a backup in *.txt format ("Export" in the file menu). Open this file and on the first line, please enter one of the following typical system uses and save the file:
 1. * administrative
 2. * data entry
 3. * manufacturing
 4. * residential/home user (basic use)
 5. * residential/home user (media center)
 6. * developer (web- server/client)
 7. * developer (applications)
 8. * graphics
18. Also at the top of this file, note the country the computer being tested is operating in. Please see below for an example.

```

* residential/home user (basic use)
United States

System Information report written at: 02/18/08 18:57:51
System Name: Comp_Name
[System Summary]

Item Value
OS Name      Microsoft Windows XP Professional
...

```

19. Name both files the same name as the machine name. Ex. *Comp_Name.nfo* and *Comp_Name.txt*.
20. Place both of these files in the folder above that contains the data collected by UTrack.
21. Zip this directory (using WinZip or the archive function of windows).
22. To ensure that that the user uploading the file receives no errors, append a random number to the end of the file name to avoid any namespace clashes. (i.e. change *Comp_Name.zip* to *Comp_Name-456234.zip*)

II. PCUsage Installation and Data Collection

General Notes

PCUsage is available online at <http://terravivum.com/projects/energystar/usage/PCUsageSetup.zip>.

Please keep track of the machines you install this software on and go back and completely remove this software when data collection is complete. It generates a great deal of data and will fill up a user's hard drive quickly.

In this data collection procedure, we intend to collect at least 30 days worth of usage data. This will correspond to roughly 70MB worth of data per month. Note that PCUsage and the corresponding data file collect information regarding system load, a percentage of system load caused by user applications and system applications, free memory, and active program information. Below are sample lines of data:

Mon Jan 21 23:34:44 2008	Sys Load	Avg SysLoad	% User	% System	Free RAM	High Process 1	% of CPU time	High Process 2	% of CPU time
Mon Jan 21 23:34:46 2008	81	71	6	93	148070	OUTLOOK.EXE	53	IdleProcess	34
Mon Jan 21 23:34:47 2008	63	68	22	77	148216	IdleProcess	62	OUTLOOK.EXE	22
Mon Jan 21 23:35:08 2008	55	58	22	77	171411	explorer.exe	53	IdleProcess	44

PCUsage Installation

1. Open the zip file "PCUsageSetup.zip."
2. Double click on the PC Usage Setup.exe file. Click Next, then Install. The program will be installed to the root directory, typically C:\PC Usage.
3. The program will start automatically. To ensure that it starts automatically, add a shortcut for the program to the startup folder. To do this in Windows XP,
 - Open C:\PC Usage
 - right click "pcusage.exe" and select "Create Shortcut"
 - Click Start -> Programs, and right click the "Startup" folder.
 - Select "Open All Users"
 - Copy the shortcut you created into this folder. This will cause the program to load on startup and monitor automatically. You may need to repeat the steps above for all users who log into this machine.
4. No further action is required until the end of the test period (at least 30 days). The program is set to track computer activity automatically at startup. Please refer to the section below once the test period is complete.

Data Collection

5. At the end of the test period, go back and uninstall the software:
 - Open the control panel and click on "Add/Remove Programs". Find "pcusage", highlight it and select remove. Follow the prompts and select defaults when answering any questions.
 - Click Start -> Programs, and delete the shortcut added to the "Startup" folder in step 3, above.

- The program may not fully be uninstalled until the system is restarted.
6. Open the PC Usage directory specified in step 3, and you will see a .txt file with a filename similar to your computer name. Delete the other files in the folder.
 7. Start up the Windows System Information Tool (msinfo32.exe). It should be located in the Start Menu under "Programs\Accessories\System Tools" or you can type "msinfo32.exe" from the command line; it is also accessible from PCUsage utility's application menu.
 8. After the Windows System Information Tool is fully populated, highlight "System Summary" on the left hand side.
 9. Select "File" and press "Save..." from the file menu at the top. Save a copy of the Windows System Information Tool output in *.NFO format (the default).
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 - * graphics
 11. Also at the top of this file, note the country the computer being tested is operating in.

```
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System Information report written at: 02/18/08 18:57:51
System Name: Comp_Name
[System Summary]

Item Value
OS Name      Microsoft Windows XP Professional
...

```

12. Name both files the same name as the machine name. Ex. *Comp_Name.nfo* and *Comp_Name.txt*.
13. Place both of these files in the folder above that contains the data collected by PCUsage.
14. Zip this directory (using WinZip or the archive function of windows).
15. To ensure that that the user uploading the file receives no errors, append a random number to the end of the file name to avoid any namespace clashes. (i.e. change *Comp_Name.zip* to *Comp_Name-456234.zip*)

III. Data Submission

1. Open <ftp://ftp.terrano.com/compspec/> using either IE or an FTP client of your choice. You will need to login anonymously.
2. Upload the zip file to the directory named "incoming".
3. Any questions may be directed to computers@icfi.com.