



Workstation Innovation News



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HP Performance Advisor Leads the Way

Gain performance with little time input.

I have to admit that keeping up with graphics drivers, tuning applications, and diagnosing hardware problems on user workstations are pretty much at the bottom of my favorite things to do. But, no matter how much I don't like it, time does go by, workstations do age, graphics drivers do need to be updated, and new software updates require application tuning.

HP's Performance Advisor is the software solution to these problems. Rather than me having to do all the research and legwork, Performance Advisor tracks all these details, greatly reducing the time I (or onsite IT staff) must spend keeping workstations up to date. Using Performance Advisor allows HP Workstations powered by Intel® Xeon® processors to be maintained for increased speed and application performance with little effort — the best of both worlds.



Figure 1. The HP Performance Advisor home screen.

Computer + Software = Performance

A quick glance at the Performance Advisor home screen shows us how this equation works. Because Performance Advisor understands what hardware is in the workstation and what software you run on the workstation, it can configure the workstation to increase your overall performance experience.

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To better understand Performance Advisor lets break down the three functional blocks of the software:

Your Computer

Figure 2 shows the Configuration Details panel that illustrates what Performance Advisor knows — everything about the processor, bios, graphics processors, memory, operating system, and applications that reside on the workstation.



Figure 2. Performance Advisor knows everything there is to know about your workstation, all of its features and software.

Figure 3 shows the same workstation in the Block Diagram panel — an easier way to conceptualize the installed hardware, Firewire®/USB components, memory architecture, and controller technologies that comprise the workstation.



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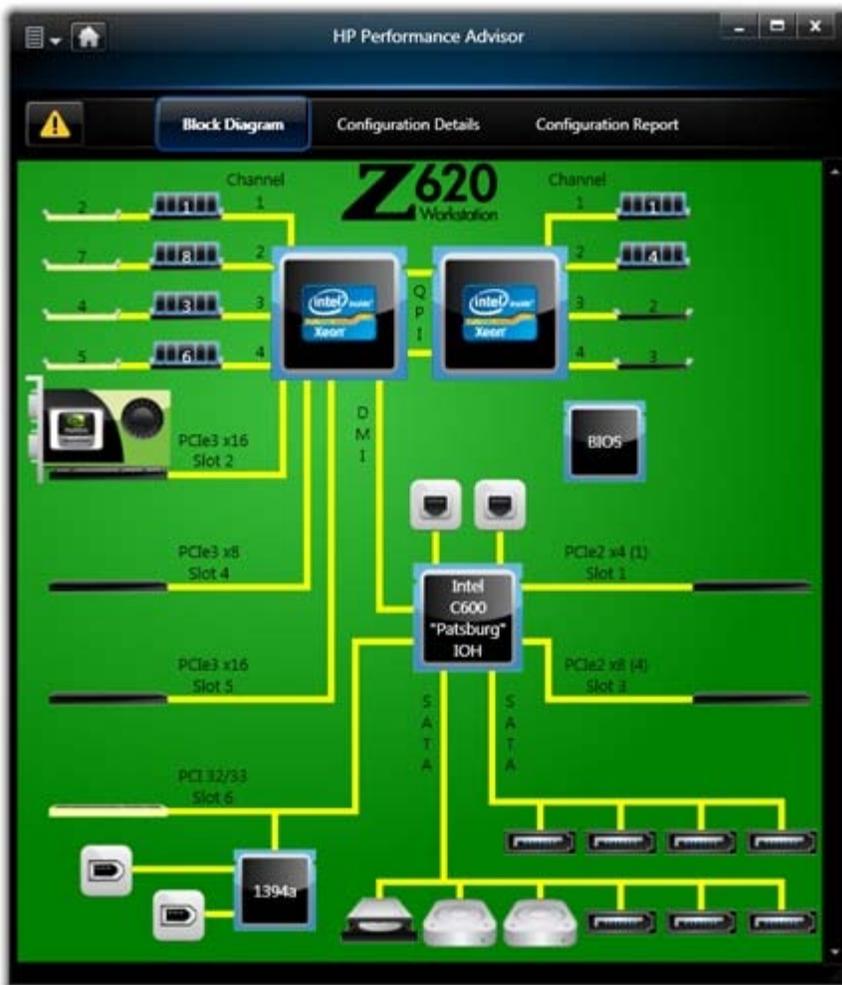


Figure 3. HP Performance Advisor, in a block diagram, makes it easy to conceptualize your workstation.

Let's say that you want to see if your graphics card driver is up to date. To do so, go the Your Computer Configuration Details (figure 2) or Block Diagram (figure 3) panel and click the graphics card you wish to check on and you'll get a detailed configuration panel for that component (figure 4).

NVIDIA Quadro FX 4800

Name: NVIDIA Quadro FX 4800
 Plug-and-Play ID: PCI\VEN_10DE\DEV_05FE&SUBSYS_059410DE&REV_A1\41F56E37E&0&0018
 Memory Size: 1536MB
 Video Mode: 1680 x 1050 x 4294967296 colors
 Raw Driver Version: 6.14.11.8267
 Familiar Driver Version: 182.67

182.67 - Installed Driver
 Hewlett-Packard is not currently tracking application certifications of this driver.

179.83 - Most Certified Driver
 The following applications have certified this driver:

- ANSYS ANSYS 12.0 x64
- ANSYS Workbench 12.0
- Bentley InRoads V8i
- Bentley MicroStation V8i
- Bentley Navigator V8i
- Dassault Systemes eDrawings 2007
- Dassault Systemes eDrawings 2008
- Dassault Systemes eDrawings 2009
- Dassault Systemes SolidWorks 2007 x64
- Dassault Systemes SolidWorks 2008 x64
- Dassault Systemes SolidWorks 2009 x64
- Dassault Systemes SolidWorks Simulation 2007
- Dassault Systemes SolidWorks Simulation 2008
- Dassault Systemes SolidWorks Simulation 2009
- HSMWorks A6 HSMWorks x64 2009

182.65 - Latest Driver
 The following applications have certified this driver:

- Dassault Systemes CATIA+ V5R18
- Dassault Systemes CATIA+ V5R18 64-bit
- Dassault Systemes CATIA+ V5R19
- Dassault Systemes CATIA+ V5R19 64-bit
- Dassault Systemes CATIA+ V5R2009x



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All screen images courtesy of Autodesk

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Figure 4. A breakdown of your graphics cards performance, drivers, and more.

Here you'll find the latest CAD software manufacturer certified drivers (plus other workstation-class software drivers) for your graphics card based on the applications installed. This is so much simpler than going to a variety of vendor web sites, that I can't overstate it. I estimate several hours of time savings per CAD upgrade alone, simply by using this feature.

Put another way: How much time do you spend during a three-year lifespan of a workstation trying to find correct hardware and software drivers?

To find the GPU utilization detail shown in figure 5, click on the graphics processor in the Block Diagram view. The GPU Utilization window reports resource usage for the graphics card so you can see if a graphics upgrade may be required (note also the thermal readings shown at the bottom of the screen).

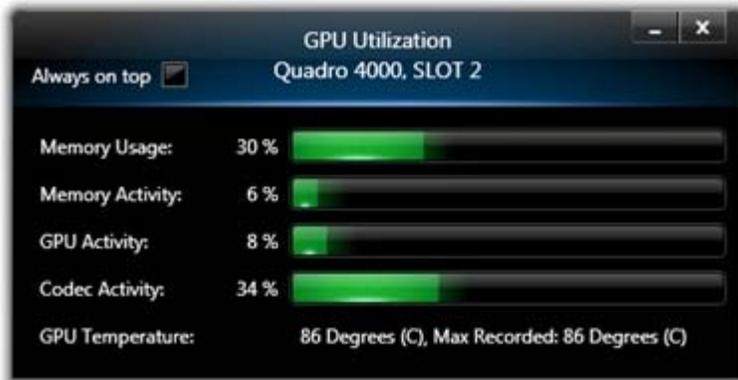


Figure 5. The GPU Utilization window.

Finally, by using the Configuration Report option (figure 6) you can save your machine's entire configuration into a TXT file that you can send to your IT support personnel for remote debugging should it become necessary. Using this feature no remote login to your machine is required so it would now be possible to send information to IT personnel even from a mobile workstation in the field via a cellular connection needed.



Figure 6. The Configuration Report option.

Your Software

By knowing which applications are installed on your workstation (figure 7) combined with the hardware knowledge gleaned in the Your Computer section, Performance Advisor can figure out which graphics drivers to install later. Maintaining this database of applications is key for keeping your CAD and other applications running properly.

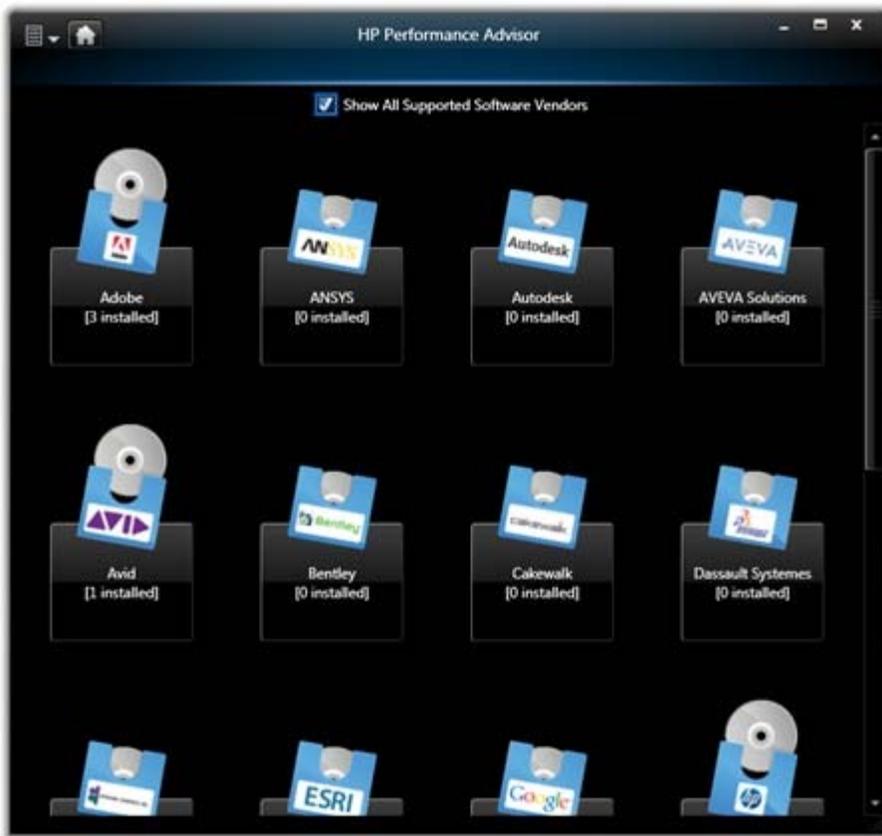


Figure 7. A showing of all your software.

Application Management

Of course, making your workstation efficient isn't just about hardware and driver management. Most CAD users must run a small selection of CAD applications every day, and for these users, software performance is the ultimate measure of productivity. HP Performance Advisor helps to realize a workstation's full potential by allowing you to manage all your programs using the Your Software tab.

From this screen, you can check on any installed application to make sure it is using the latest service pack releases or to check on the latest driver certifications availability from vendors. Again, rather than having to check several software vendor's web sites to figure out if your applications are up to date, Performance Advisor does the work for you.

In addition to service packs and drivers, you can also access performance tips, white papers, hardware tips (for peripherals such as plotters, printers, and pointing devices) and other applicable information from HP's knowledge base. Think of it like a preconfigured smart search for anything that might be helpful in running your installed CAD applications.

Your Performance — Workstation Monitor

Shown here in the Memory Usage panel you can see the actual system usage of running applications in a much more intuitive way than Windows Task Manager.

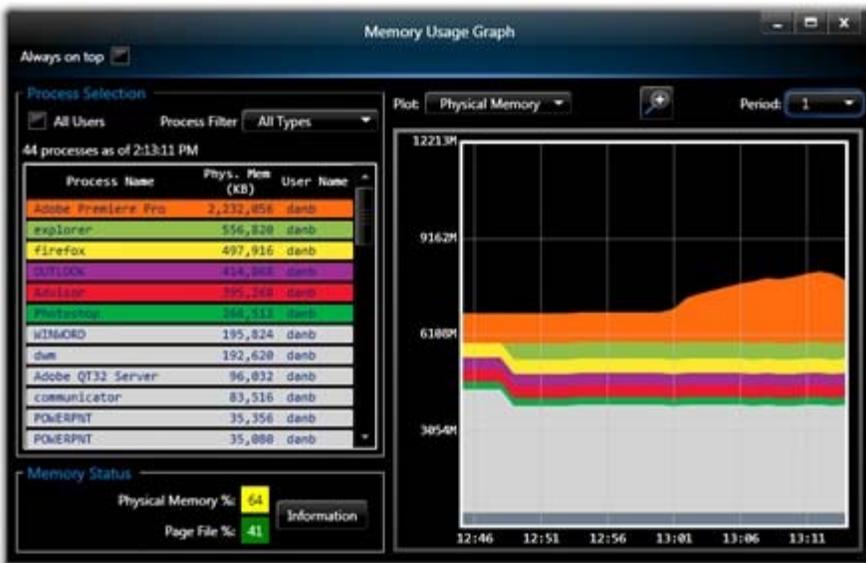


Figure 8. The system memory used to run currently loaded applications.

In this example we see that there is plenty of available system memory to run the currently loaded applications. On the other hand, if we were to see several CAD applications using all available memory, we would not see the black space in the graph and would know that a RAM upgrade might be in order.

Workstation Monitor can help you and/or IT professionals identify performance problems on HP Workstations. Using the Workstation Monitor tool you can actually capture the system memory usage over a long period of time (hours or days) to get a more accurate picture of how a workstation is really performing for the user. The Workstation Monitor can also be configured to capture performance for specific applications. For example, you can see how a rendering tool affects your machine's performance. The monitor information is stored to a log file that can be examined by IT personnel for detailed analysis.

A time-based playback plot (figure 9) is generated from the log data so that the administrator can review resource use over a period of time, view top resource consumers for each sampling period, and view device specific details such as read and write bytes for each storage device.

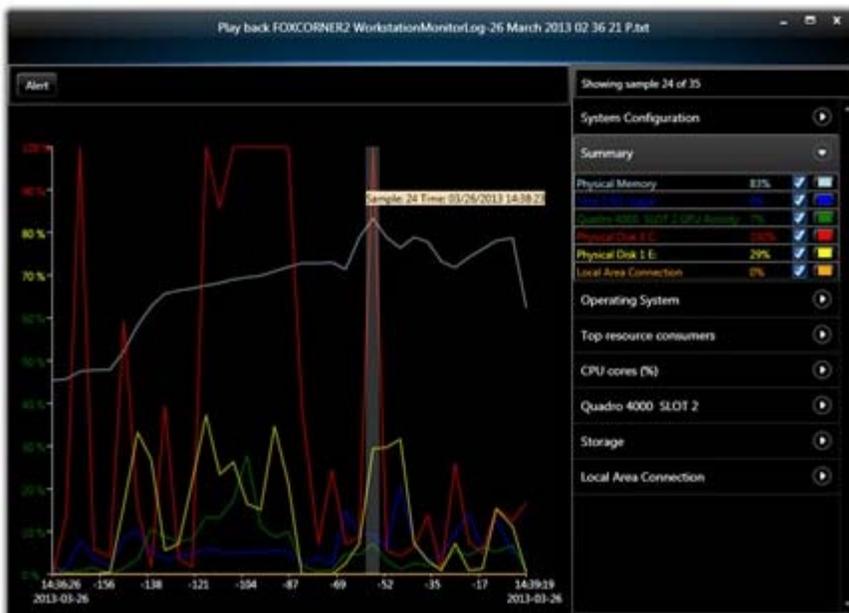


Figure 9. This timed playback plot shows how the workstation's memory was used over time, helping the administrator decide if it's time for an upgrade or not.

Total Cost of Ownership

I've alluded to the convenience of using Performance Advisor to maintain workstations and speculated about the time savings you could reap as a result. But to paraphrase Ben Franklin's famous saying, we can say that an hour saved is an hour earned.

So what type of savings can Performance Advisor provide? The quick answer is IT time that would otherwise be spent working on a machine while the user sits idle. Also, consider these following questions:

- How much time does IT usually spend on each workstation?
- How much time does a user lose while IT works on their machine?
- How much time does a user lose trying to figure out what is wrong with their machine and communicate it to IT?

For every work-hour Performance Advisor saves you, the total cost of owning your HP workstation is lowered. How much money can you save on workstation maintenance? That's a question only you can answer, but it is apparent that the savings possibilities are real.

Wrapping Up

Most of us don't think about the expense and IT time it will take to maintain a new workstation over its lifetime, but once you do, you can see that HP's Performance Advisor delivers great value and time savings. In fact, you may even have fun using Performance Advisor — and when was the last time you ever thought that while updating your workstation's drivers?

About the Author

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Robert provides CAD implementation, consulting, and programming services for a variety of companies throughout the United States and Canada. He holds a degree in mechanical engineering from the Georgia Institute of Technology and is the author of *Expert CAD Management: The Complete Guide*. Reach him via his web site at www.cad-manager.com.

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