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HP's Performance Advisor

Squeeze more performance from your HP Workstations.

By Robert Green, *Cadalyst* Contributing Expert



When workstations are new they come loaded with the latest operating system service pack, all the right drivers, up-to-date CAD software and offer fast, uncluttered performance. But over time as new service packs emerge, CAD software changes, and graphics drivers get out of date, that "new workstation feel" slips away, performance falls off and you (or your IT department) have to deal with keeping your workstation up to date. If you're working on an older workstation, chances are you've experienced this scenario first hand.

[HP's Performance Advisor](#) is a software utility provided with HP Workstations that relieves you of the drudgery I described above. Performance Advisor deals with all the specifics of finding the right drivers, giving you a painless way to keep your workstation running optimally and thus squeezing every bit of performance from your workstation investment.



Figure 1.

The Guru Sees All

HP says its Performance Advisor acts as your own "personal guru" to assist you with achieving the maximum level of performance from your HP Workstation. Given how much information Performance Advisor compiles about the applications and hardware in your workstation, the guru tag makes sense.

A software application divided into three categories of functionality, Performance

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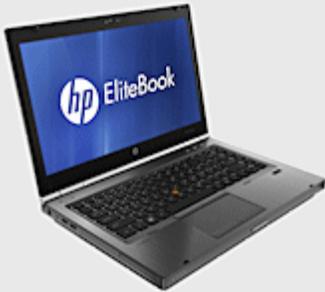
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Advisor lets you undertake detailed management of your workstation. The categories and basic functionality of each are:

Your computer. Controls hardware configuration issues such as system drivers for the various components in your workstation, based on your workstation's operating system.

Your software. Helps keep software up-to-date by managing service pack updates and certified driver notifications for your installed CAD applications. It helps in optimizing the setup as well by providing the correct BIOS and OS settings for each application.

Your performance. A data warehouse of information on memory resource use so you can see if you have enough RAM to fully support your installed applications. It lets you track resource use by subsystem, so you can see how your application and how you use it impacts each subsystem. This is especially helpful when you think you may have a bottleneck.



Figure 2. The three functions of Performance Advisor.

Let's explore how Performance Advisor works by stepping through its three major areas of functionality.

Hardware Management

To see Performance Advisor's functionality, simply click the Your Computer menu option, which opens the graphical Block Diagram screen, as shown below.

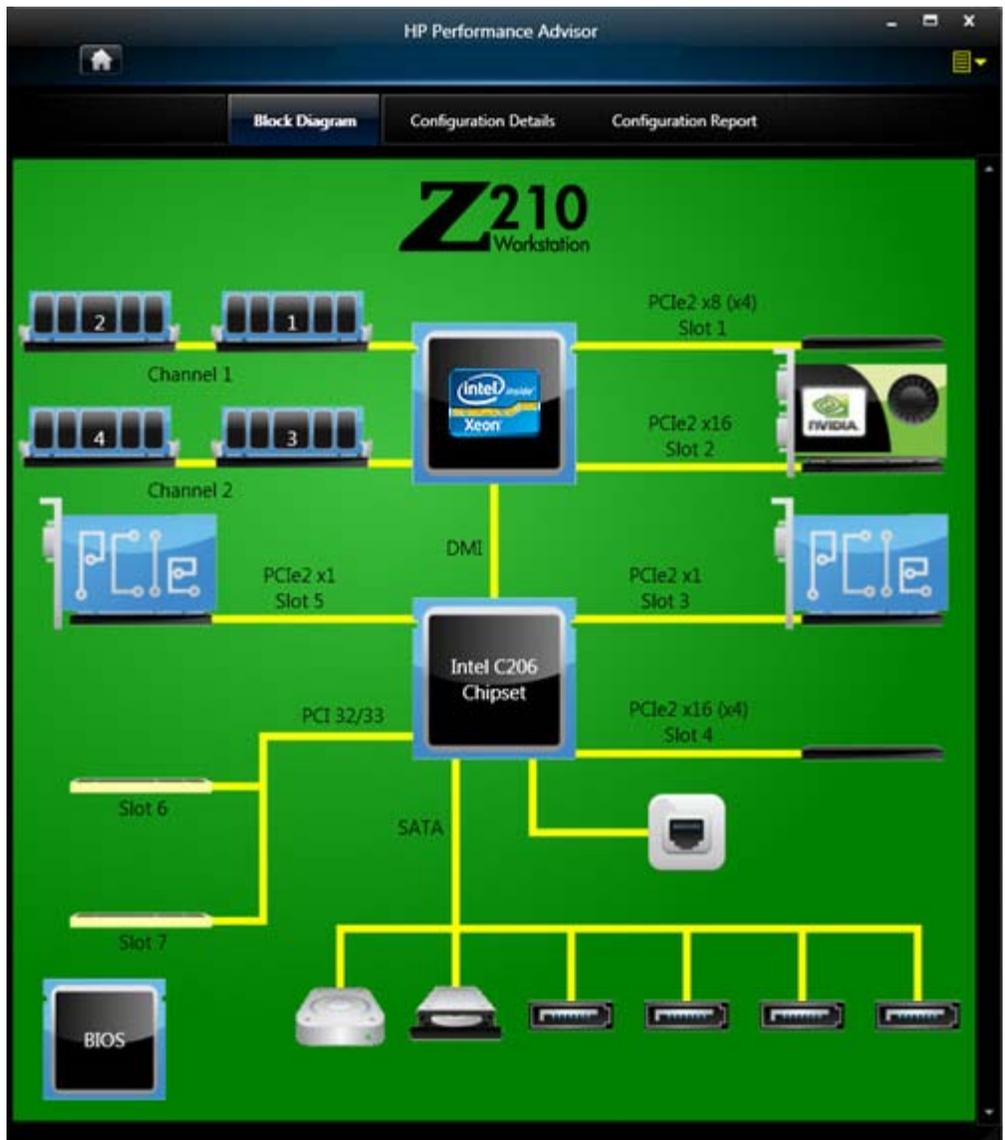


Figure 3. The Block Diagram view gives a pictorial view of system resources and architectures.

The block diagram displays an overview of your workstation's hardware devices, including its processing cores, RAM, motherboard, graphics card, and available PCI slots, thus making it easier to understand what is actually inside the workstation without having to open it. Simply click on the block diagram component and you'll see a summary of all system resources relating to that component, including Windows operating system information. Comparatively, you'd have to search in the System/Security, Network/Internet, and Hardware/Sound tabs within the Control Panel to track down the same information.

To work with a given device (such as the graphics card), simply click on that item in the list and the detailed configuration panel for that device opens. Here you'll find the latest CAD software manufacturer-certified drivers for your graphics card that you can download directly using the download button on the right-hand side of the screen. Using this methodology, there's no more searching for the right driver. You can also see all the related applications that have been tested with that driver, so if you have more than one application that you use, you can find the driver that works best.

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Figure 4. Find the right driver for your CAD software and download it immediately.

The final tab of the interface — the Configuration Report — collects the configuration data in the workstation into a unified report that tells you everything you need to know about hardware use. As you can see from the crowded graphic below there's a lot of information to be had.

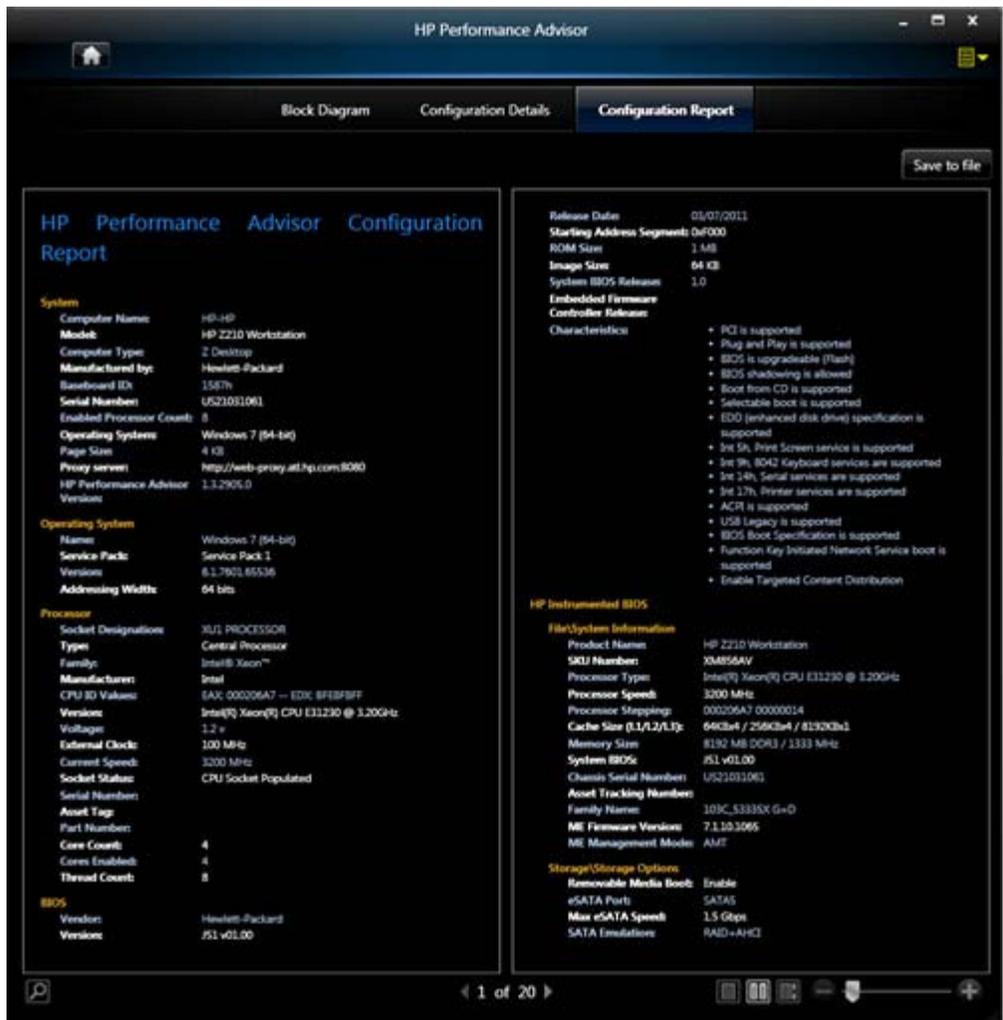


Figure 5. All the details about your workstation's hardware in a single screen. Virtually every detail about your workstation is contained in the various screens of the Configuration Report tab.

An additional hardware management bonus is the ability to save the configuration screen to a file that you can send to your IT support personnel so they can see everything going on with your machine without having to stop by or log in remotely, thus saving support time.

Driver Management

Let me ask a simple question: How hard is it to keep all the correct system drivers on a normal desktop computer during a three-year life span as operating system service packs and CAD updates are applied?

The surprising answer is that as your application software changes, the drivers required change as well and it isn't always easy to know which drivers are the ones you really need.

As figure 4 (above) shows, Performance Advisor tracks what graphics cards and CAD applications are installed and it builds a database of vendor-certified device drivers, so you don't have to spend your time doing so.

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

letting you manage all your programs using the Your Software tab.



Figure 6. Vendor specific folders track software applications as you install them.

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. 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 as a preconfigured smart search for anything that might be helpful in running your installed CAD applications.

Performance Tuning

The final element of the Performance Advisor interface is the Your Performance tab, which provides two useful functions for analyzing your workstation's performance.

The first useful tool (shown below) is the Memory Graph function, which lets you see RAM and disk virtual memory allocations for all processes running on your workstation. The Memory Graph lets you understand which applications require the most memory so you can determine which applications to run concurrently — or which to unload — to squeeze maximum performance from your workstation. If you click on the process names on the left, they become color coded as does the graph on the right, so you can track the memory usage by individual processes, and know which processes consume the most memory.

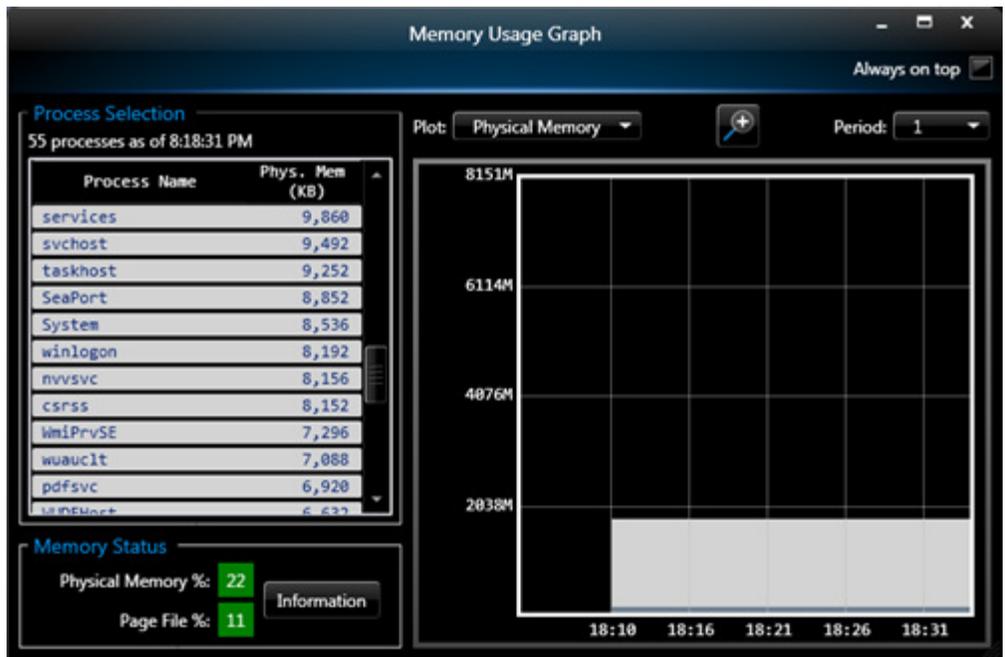


Figure 7. The Memory Graph shows how your workstation uses RAM over time to help optimally size memory.

The second useful tool (shown below) is the Application Monitor that shows RAM and disk virtual memory use for the entire machine in a resource-monitor-like timeline. In addition, it records the impact by subsystem of your application usage, so you can identify not just memory limitations, but bottlenecks elsewhere, if they exist. In fact, Application Monitor stores data so you can share your workstation-performance parameters with your IT department. Because you can configure these tools to store time lapse performance data during a user-defined period, you'll be able to collect real world information on how your CAD applications are actually performing.

Note: The ability to store system performance data can be very compelling when requesting performance-enhancing upgrades such as more RAM or solid state disks, because your workstation is documenting your case for you!



Figure 8. The Application Monitor shows memory use for each software application.

Performance Advisor Savings

Now that you know how HP's Performance Advisor can make it easier to maintain your machine, let's think about what that means from a financial point of view. It stands to reason that if your workstation performs better, you get more done, thus saving you time. If you can keep workstation humming along with fewer IT resources, that saves your company money. Performance Advisor delivers these savings to you every day without any work on your part:

IT savings. IT savings are realized because traditional IT-based tasks such as updating operating system, hardware, and application software drivers can be performed in an automated way with far less IT oversight.

Troubleshooting savings. Troubleshooting savings can be obtained using the machine logging reports that are compiled automatically by Performance Advisor to assist IT personnel if any repairs are required.

Labor savings. Operator labor savings simply are the rewards that come from running a faster, better-configured workstation that performs tasks in less time and frees an operator to perform other tasks.

When you tally the savings generated by using Performance Advisor, it becomes apparent that the cost of owning an HP Workstation during its three-year lifetime can actually be lower than that of budget machines that require more maintenance and offer lower performance. After all, why would you spend money on a new workstation if you can't keep it optimally configured over the long haul?

Wrapping Up

The key value of HP's Performance Advisor is its ability to deliver a properly configured workstation with maximum performance over the entire life of the workstation. When you think about the time you spend keeping up with a workstation over a three year period that's when you begin to understand the actual value delivered.

Just think of how much time and money you'll save by letting Performance Advisor take care of your workstation instead of having to do it yourself or asking your IT department to take care of it.

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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