

HP - Global Reach with Global Responsibility

The Ability to Discover, Optimize and

Hewlett-Packard Company (HP) from Palo Alto, California is among the world's largest IT companies with a portfolio that spans printing, personal computing, software, services and IT infrastructure.

With approximately 156,000 employees worldwide

HP's mission is to invent new technologies and services of high business value and social benefit.

That's why it is not surprising that the global geospatial business community is a long-time valuable HP customer and partner.

This month's interview is an excellent opportunity for a closer look at HP along with its innovating products and services available for geospatial industry.



Debbie Tarr

By Joc Triglav

At the beginning, please introduce HP company in the main outlines. Which are the HP hardware products that are most relevant for the geospatial industry?

HP is an engineering company that prides itself as innovators – with over 16,000 patents – if you think about it that is 1,800 new patents per year or eleven a day. HP's Workstation value proposition is to foster intimate relationships with our customers that enable delivery of innovative products at competitive prices. We have the broadest product portfolio in the industry, and our close relationships with partners and suppliers allow us to usually be the first to ship new technology in our industry.

With technology gains, geospatial data has been brought to the masses (my kids 'google earth' those places I only read about in the encyclopedia – like the pyramids) and there are many HP products that bring that geospatial data and information to the user, from wireless handheld devices to large format printers and enterprise servers. Often it is consumer pc users taking advantage of the technology for their personal use. A workstation is an excellent alternative for users that need more power,

flexibility and reliability than is available from high end PC's. For professional geospatial users, those who need to manage, analyze and display high-end geospatial info, or are doing photogrammetry, there are a range of HP workstation platforms that can meet their needs, depending on their requirements. Quad core processors enable an unprecedented amount of multi-tasking with no performance degradation, and the introduction of dual graphics on most of our desktop workstation lines will allow up to four displays showing real-time 3D graphics information. It's really just a question of how much performance and expandability the particular GIS professional needs. And as I mentioned, HP provides a full range of products for GIS professionals from handheld devices, workstations, enterprise servers to large format printers. So, one stop shopping is easy with HP.

Please, give us your description of typical HP workstation hardware configurations for entry, medium and high-end level users in geospatial business.

There are a number of variables to look at in selecting the right workstation configuration; HP offers choice and provides guidance in

selecting the right platform. For a new workstation user, I would recommend they check out our 'How to Guide' for purchasing workstations to understand the choice points to consider, and the solution options HP provides. Typically, but depending on application, entry GIS users – using 2-D or low-end 3-D applications, might consider the recently announced xw4550; it is powerful and reliable, providing workstation performance at a PC-like price. It has dual-core AMD Opteron processor, simultaneous 32 and 64 bit application support and workstation-class professional graphics. As performance, graphics and expandability needs increase, GIS professionals such as analysts, engineers and specialists in land and resource management, would look at our mid-range platforms, such as HP's Intel-based xw6400 offering high performance Intel Core 2 Duo, Quad, or Extreme processors, a lot of choice in disk, controllers and external storage, and high end NVIDIA 3D graphics. Finally, our highest performing systems, the Dual Core AMD Opteron based xw9400 and Intel Xeon based xw8400 are platforms for the most demanding computational and visualization performance, like photogrammetry, where dual graphics, quad-core technology, meet the performance and visualization demands of the very demand-

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ing geospatial application environment. And of course, mobile GIS professionals can bring their workstation on the road with them with the HP Compaq 8710W, a true 64-bit computing environment, with 17" diagonal display, full OpenGL and DirectX10 graphics support.

In the nature of hardware and software technology is that it changes very quickly. How do you at HP advise your customers to follow this quick development in the best way and how to decide when to upgrade, trade in or replace the existing hardware

Because one of the key facets of our value proposition is customer intimacy, we strive to provide product roadmap information to as many customers as possible on an ongoing basis. We regularly host customer visits at our Ft. Collins facility, and conduct customer roadmap updates remotely and at customer sites all the time. By doing this, we are able to provide customers with the advanced planning information they need in order to decide what the best time is for them to transition. We also host an Early Evaluation Program, which is a program that gets prototype hardware in the hands of customers for evaluation and development. This program allows those customers to get a (roughly) six-week head start on the activities typically associated with product transitions.

We are time to market with all of our products. We are right there with our partners and

lead most of our competitors with product technology. This is great for our customers who are early adopters and need up to the minute technology and performance. But not all our customers are early adopters and don't need to move early to new products. This is especially true for our OEM & large enterprise customers. So we also offer the stability of long-life configurations (e.g. long-life xw6200/xw6400 especially for those customers in the financial industry). And when our customers are ready to upgrade, as a technology industry environmental leader for decades, HP is making a difference with a comprehensive, Design For the Environment Strategy that touches upon virtually every aspect of our business. We challenge ourselves to reduce the environmental impact of the materials we use in our products. We focus on energy efficiency, product reuse and recycling and supply responsibilities.

Today's workstations are composed of an infinite number of combinations of hardware and software components, OS, and applications. Have you at HP perhaps established a standard procedure to reduce these complexities and to allow fine tuning to the specific individual user requirements?

HP's Performance Tuning Framework (PTF) allows expert customization and configuration of our workstations. PTF and HyperTune are a collection of easy to use tools that give you

the ability to discover, optimize and manage your unique combination of hardware, graphics drives, applications operating system and other system resources. This is an exclusive HP software innovation that's included free with every HP workstation sold with a Microsoft operating system.

High-performance, mission-critical applications are very demanding on the underlying system and its drivers, especially graphics. PTF connects to an HP database so it always has the latest information on certified graphics drivers for each application and makes recommendations to help optimize the performance of our customer's workstations in their ever-changing environments.

How do you benchmark your workstations regarding their capability to perform geospatial operations? How would you rank the importance of a processor, display, hard disc, memory, graphic card and other individual hardware components in a workstation, finely tuned for geospatial applications?

We perform standard benchmarks -e.g. SPEC- as well as application-focused performance characterization. Our industry and application-specific platform configurations and recommendations are based on our benchmark results plus application and industry expertise so we know what really matters most to users in all the industries in which we focus.



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How are the cooling problems and the problems of multiple sources of acoustic noise, like fans, hard disk drives and other noises solved in HP workstations?

All our HP workstations are engineered from the inside out not only so they are easy to access the inside with our tool-less chassis but also designed clean so it's easy for the user to switch out things, like graphics cards, when the need arises. As the demands of the users increase in visualization so can the hostility of the insides of a computer. HP engineers our workstations to be cool and quiet, they can be bought with PFC 80 PLUS power supplies & advanced cooling and highly configurable power management. Our workstations are used by some of the most creative people in industry today – the last thing they want is a noisy computer on their desk – we respect their need for a quiet and cool running computer and work hard to deliver workstations that meet those needs.

People in geospatial business are often in the move or working outside the office. What would be your advice to them regarding a decision between a desktop workstation and a mobile workstation or notebook or other types of mobile computer hardware?

Because of our focus on the industries that we sell to - like geospatial - we understood early that mobile was an important factor in our customers work environments. So, HP offers our customers both desk-based and mobile and we often recommend that they incorporate both into their businesses: the powerful and reliable mobility they need when they are away from the office and the extreme power, speed and visualization capabilities when they are in the office with their desk-

based workstations and their large multiple monitor configurations.

So, you can buy one of each! But seriously, there are inherent benefits that a desktop workstation provides, like ultimate performance (both CPU and graphics), significantly more expandability (I/O and storage), and multi-display capability. Desktop workstations also typically provide more performance for your dollar, although mobiles are certainly coming down in price all the time. Mobile workstations, on the other hand, can provide very compelling performance with the added value of being able to travel with the user. The good news is that HP offers a great variety of Desktop and Mobile workstations to suit just about any requirement.

What is HP Remote Graphics Software and how can it be useful in geospatial applications?

RGS is an advanced utility that allows users to remotely access and share their graphics workstation desktop (desk-based or mobile) across different platforms, so that workstation performance high-end 3D graphics can be quickly and easily viewed in real-time with other users. This is a great solution for project teams, for those in the field who want to access applications from a remote site with network access, or with multiple members of the team in different locations. The solution allows you to access applications on different platforms, such as Windows, Linux and HP-UX.

Does HP have any strategic partners in geospatial software business? With which main companies in this business do you have tighter business cooperation and which are the main fields of cooperation?

HP works with the leading geospatial/GIS technology solutions vendors and have a large installed base of users worldwide using workstations (both desk-based and mobile), servers, high definition graphic displays and large format printers among other platforms. Our workstation technical computing lab has expertise in the GIS/Geospatial market, and with the applications. They work with the vendors to test and certify the applications with a range of

hardware, software, drivers and graphics to ensure that the application works optimally on our workstations.

Some of HP's technical workstation markets and customers still heavily rely upon the UNIX operating environment. Nowadays Linux seems a very attractive UNIX alternative. How does HP offer its customers R&D and other necessary support to make such a transition to Linux viable?

We were innovators in the UNIX computing world especially around graphics and visualization and we continue to support our UNIX customers. By the way... the Airbus A380 was designed on HP-UX Workstations. HP also strives to provide our workstation customers with Linux a choice of Linux as part of our overall multi-OS strategy. Linux was a natural progression for a lot of UNIX customers who wanted out of their higher maintenance proprietary environments, as well as, customers who were hitting the top of their PC's capabilities. HP has a dedicated Linux R&D team that does early qualifications of beta releases from strategic Linux distributors to enable us to deliver Linux configured to each HP personal workstation, including the latest driver updates. We maintain strategic relationships with the open source community to enable a timely and quality HP workstations and Linux solution. We have a large Linux installed base in the Oil & Gas, DCC and Government sectors. Several of our ISVs are Linux-based and we've re-tooled much of our Unix expertise into Linux.

An example: UGS Unigraphics NX is available on Linux. We've created a tool to analyze an NX Linux installation for correctness - driver versions, patch levels, etc - and can help the user get it right the first time.

At the end, please outline your opinion on the developments in geospatial market in the next 5 to 10 years?

A very exciting time as this technology becomes more accessible to people in their everyday lives and to global communities of people and businesses. Like the universe itself, there is an unlimited geospatial 'database' to work with, so for professionals who want to quickly access, analyze and model geospatial information with the highest quality visual experience, we would like HP workstations to be their platform of choice.

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