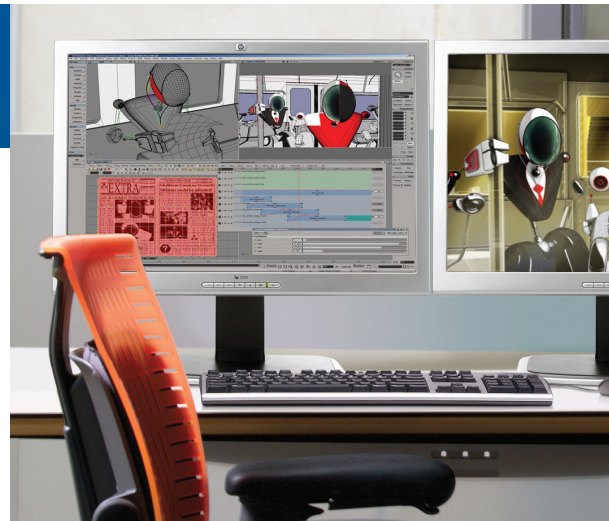# HP WORKSTATIONS — PIONEERING NEW INNOVATIONS

Performance Tuning Framework

The HP Performance Tuning Framework helps you maximize the performance and reliability of your workstation environment by giving you the ability to discover, optimize, and manage your unique combination of hardware, graphics drivers, applications, operating system, and other system resources—an exclusive HP software innovation that's included free with every HP Workstation sold with a Microsoft operating system.

Remote Graphics Software

Get high performance remote desktop access to your 2D, 3D, video, and media-rich applications—on-site or from a remote location through a standard Internet connection. Collaborate with colleagues across geographies, in real-time, using content-rich interactive applications. Sign-in to your remote workstation resources and have the desktop video, keyboard, and mouse follow you to the new access location. Connect a local USB device and virtually attach it to a remote workstation. Now you can with HP Remote Graphics Software.
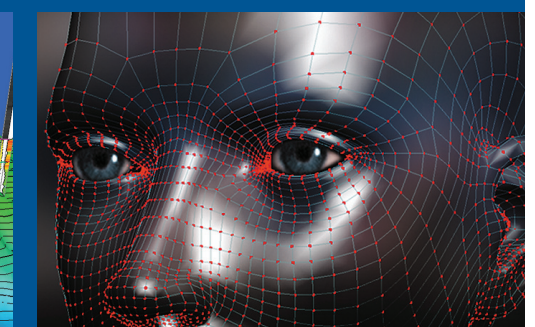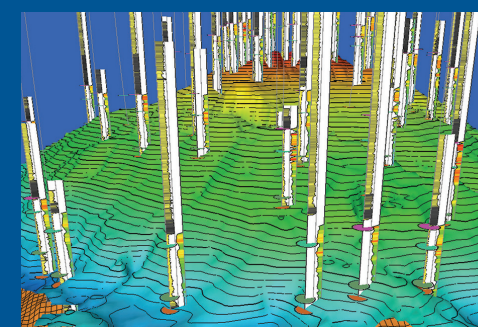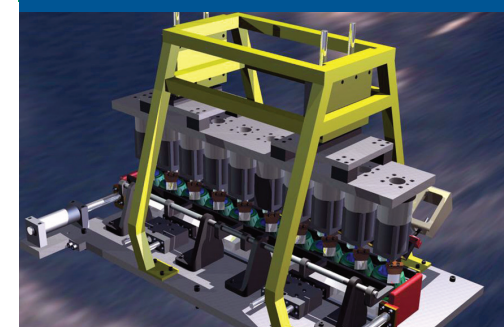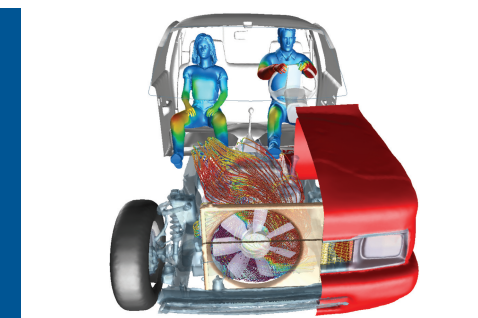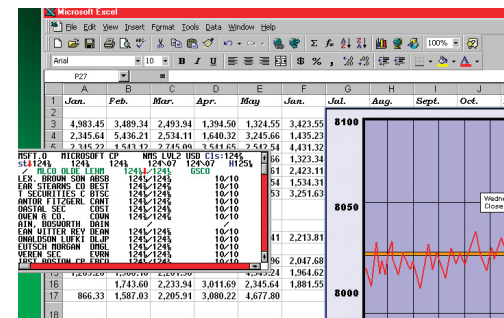
Designing for the environment

HP Workstations are advancing the forefront of industry innovation with a firm commitment to reduce the environmental impact of computing. With optional ENERGY STAR® configurations and 80 PLUS power supplies standard on all new platforms, HP Workstations provide an energy-efficient, conveniently recyclable, and environmentally responsible solution.

Certain Windows Vista product features require advanced or additional hardware. See http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on you computer. To download the tool, visit http://www.windowsvista.com/upgradeadvisor

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http://www.hp.com/workstations

GRAPHICS CARD OPTIONS FOR HP WORKSTATIONS — QUICK REFERENCE GUIDE

YOU DESERVE A PERFORMANCE EDGE

Customer inspired innovations
Proven, reliable performance
Trusted industry partnerships

A FULL RANGE OF GRAPHICS CARDS TO MEET YOUR PERFORMANCE NEEDS – COMPARE FEATURES

	Professional 2D		Entry 3D		Mid-range 3D		High-end 3D		Ultra High-end 3D
Graphics segment	NVIDIA Quadro NVS 290	NVIDIA Quadro NVS 440	NVIDIA Quadro FX 370	NVIDIA Quadro FX 570	ATI FireGL V5600	NVIDIA Quadro FX 1700	NVIDIA Quadro FX 3700	NVIDIA Quadro FX 4600	NVIDIA Quadro FX 5600
Positioning statement	Professional 2D graphics in a low-profile card	Up to quad monitor support from a single PCIe card; the HP xw6600 will support 2 cards	Entry-level professional 3D graphics at a breakthrough price	Entry-level professional 3D graphics with uncompromised features	Workstation graphics with powerful performance at a mid-range price	Mainstream graphics with exceptional price/performance for professional applications	Commanding performance and feature-rich 3D workstation graphics	Powerful 3D computing with unlimited programmability and uncompromised performance and features	Ultimate 3D visualization power
Number of displays supported	2	4	2	2	2	2	2	2	2
Supported HP Workstations									
HP xw4550	●		●	●	●	●			
HP xw4600	●	●	●	●	●	●	●	●	
HP xw6600	●	(AMO only)	●	●	●	●	●	●	
HP xw8600	●	(AMO only)	●	●	●	●	●	●	●
HP xw9400	●	(AMO only)	(AMO only)	(AMO only)	(AMO only)	●	●	●	●
Supported operating systems									
Genuine Windows Vista® Business 32-bit	●	●	●	●	●	●	●	●	●
Genuine Windows Vista® Business 64-bit	●	●	●	●	●	●	●	●	●
Genuine Windows® XP Professional 32-bit	●	●	●	●	●	●	●	●	●
Genuine Windows® XP Professional x64	●	●	●	●	●	●	●	●	●
Red Hat Enterprise Linux® 4	●	●	●	●	●	●	●	●	●
HP Linux Installation Kit	●	●	●	●	●	●	●	●	●
Graphics memory	256 MB	256 MB (128 MB per GPU)	256 MB	256 MB	512 MB	512 MB	512 MB	768 MB	1.5 GB
Memory type	DDR2	DDR	DDR2	DDR2	GDDR4	DDR2	GDDR3	GDDR3	GDDR3
SLI rendering support							Yes on xw9400	Yes on xw9400	Yes on xw9400
Connectors	1 DMS-59 connector with dual DVI cable kit, dual VGA cable kit available as an option	2 DMS-59 connectors with 2 dual DVI cable kits, dual VGA cable kit available as an option	2 DVI-I (1 dual link) with VGA adapters	2 dual link DVI-I with VGA adapters	2 dual link DVI-I with VGA adapters	2 dual link DVI-I with VGA adapters, S-video, component HD-out via optional cable	2 dual link DVI-I with VGA adapters and one 3-pin mini DIN stereo output	2 dual link DVI-I with VGA adapters and one 3-pin mini DIN stereo output	2 dual link DVI-I with VGA adapters and one 3-pin mini DIN stereo output
Display configurations									
VGA+VGA		●	●	●	●	●	●	●	●
Quad VGA		●							
Dual VGA + Dual Digital		●							
Quad Digital		●							
VGA + Digital									
Digital + Digital	●		●	●	●	●	●	●	●
VGA or Digital + S-Video						●			
VGA or Digital + HD-out						●			
Max. VGA display resolution	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536	2048 x 1536
Max. digital display resolution	1920 x 1200	1920 x 1200	2560 x 1600	2560 x 1600	3840 x 2400	2560 x 1600	2560 x 1600	2560 x 1600	2560 x 1600
Number of 30" displays supported	N/A	N/A	1	2	2	2	2	2	2
Host interface	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16	PCI Express x16
Number of slots required	1 PCIe	1 PCIe	1 PCIe x16	1 PCIe x16	1 PCIe x16	1 PCIe x16	1 PCIe x16	1 PCIe x16 + adjacent slot	1 PCIe x16 + adjacent slot
ISV certifications	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OpenGL Version	OGL 2.1	OGL 2.0	OGL 2.1	OGL 2.1	OGL 2.0	OGL 2.1	OGL 2.1	OGL 2.1	OGL 2.1
Vertex and pixel shaders	Shader Model 4.0	Shader Model 3.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0	Shader Model 4.0
DirectX Version	DX 10	DX 9.0c	DX 10	DX 10	DX 10	DX 10	DX 10	DX 10	DX 10
Max power consumption	21W – Passive	31W – Passive	38W – Active	38W – Active	<75W – Active	42W – Active	80W – Passive	134W – Active dual slot	171W – Active dual slot

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