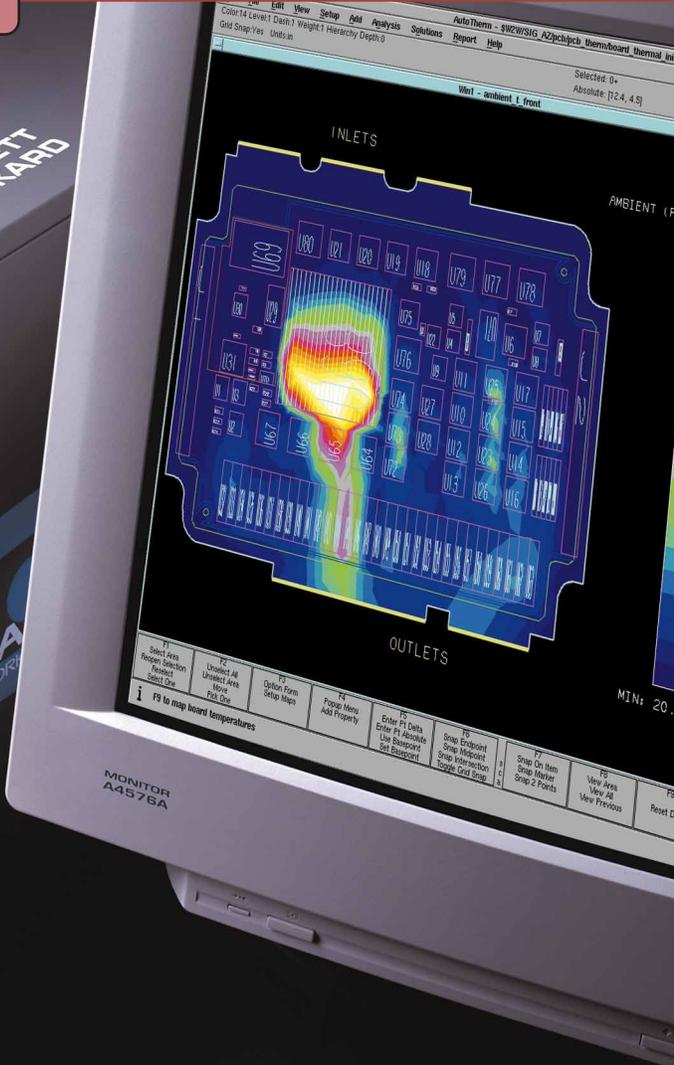


**HP** **VISUALIZE J5000** **UNIX Workstations**



**HP**  
**VISUALIZE**  
WORKSTATIONS

Your Ultimate Design Machine - Extreme  
Compute and Visualization Power

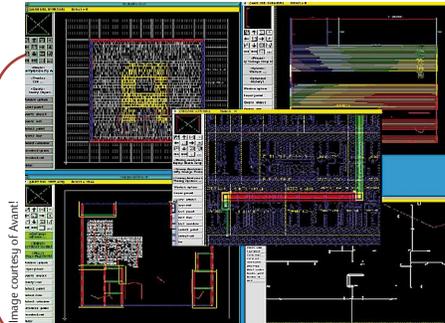


Image courtesy of Avant!

### Cut Your Design Cycle Time

The new HP VISUALIZE J5000 Workstation takes technical computing to all-new levels of power and performance. Doubling the performance of the previous generation of J-Class systems, this next-generation HP-UX system moves your design and engineering work forward with two-way multiprocessing and the high-performance PA-8500 processor. Multiple 64-bit HP PA-8500 processors running at 440MHz deliver the power you need to cut your design cycle time and get your products to market faster.

With its 140 million transistors and 1.5MB on-chip L1 cache, the PA-8500 processor offers the industry's largest on-chip memory level, minimizing memory latency and boosting performance.

Complementary to this new HP-exclusive chip set are peak memory bandwidth increases to 2GB/s and peak I/O bandwidth to 2GB/s. With the capacity for more I/O slots, higher memory and up to 4GB of 120MHz SDRAM, the HP VISUALIZE J5000 achieves new performance levels.



Image courtesy of Calia

### Designed for the Toughest Work

The HP VISUALIZE J5000 Workstation was designed for the toughest work in technical computing: With the rock-solid 64-bit HP-UX 11 operating system, the J5000 rises to the extreme challenges of electronic design, including system-on-a-chip (SOC) simulation and complex IC verification.

With the ultimate visualization power of the new HP VISUALIZE-*fx*<sup>6</sup> Pro graphics subsystem, the J5000 delivers the performance required for the toughest mechanical design problems. It's up to the challenges of virtual prototyping, large-model 3D rendering, manufacturing simulation and advanced computational analysis.

### HP's Highest-Performing Graphics

The HP VISUALIZE J5000 Workstation supports a range of graphics subsystems, from entry-level 2D and 3D to the ultimate in 3D visualization – the new HP VISUALIZE-*fx*<sup>6</sup> Pro subsystem. With six dedicated geometry accelerators, the HP VISUALIZE-*fx*<sup>6</sup> Pro puts the power of HP's highest performing graphics subsystem behind your 3D applications. It will make your work come alive with texture mapping, 3D geometry acceleration, hardware occlusion culling and shadow casting.

With the power of the J5000 system and the performance of the *fx*<sup>6</sup> Pro graphics, you will experience two extremes: the ultimate computational power and the ultimate graphics performance. You will have the power and performance you need to work interactively with very large models – to work at the speed of sight.

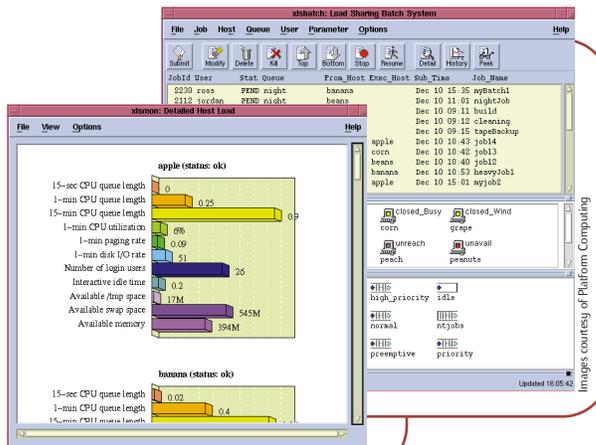


Image courtesy of Platform Computing

And for your most expansive visualization needs, J5000 workstations drive HP's powerful immersive environments – the HP VISUALIZE Center and the HP VISUALIZE Workgroup.

These versatile systems can be put into service as deskside workstations for use by individual power users, as file servers, or as compute farm engines when bundled with Platform Computing's Load Sharing Facility software. Regardless of how they are deployed, your J5000 workstations will help you slash the amount of time required for your compute- and memory-intensive tasks.

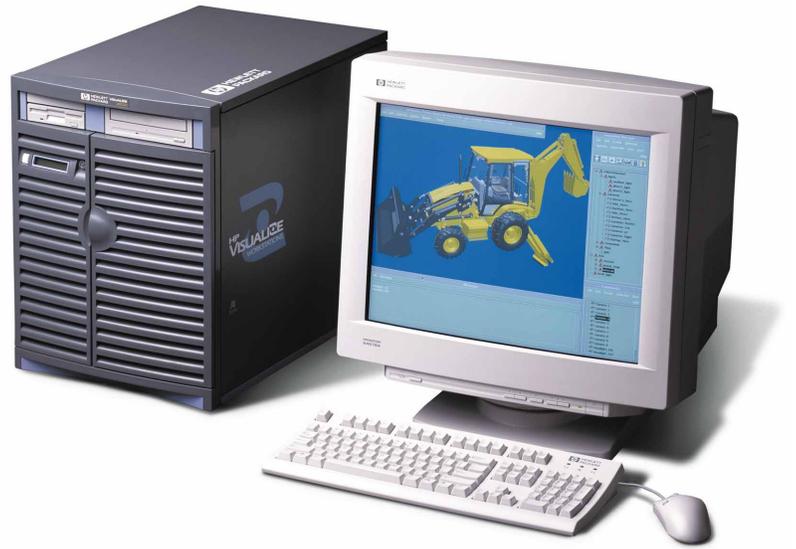
### Great Investment Protection

The HP VISUALIZE J5000 Workstation is open and expandable, so you can easily add more disk, RAM, graphics and I/O capacity to meet your current or future needs. At the same time the J5000 is binary compatible with existing PA-RISC applications and data.

And looking ahead, today's HP-UX operating systems offer binary compatibility with future products based on the HP PA-RISC architecture and the IA-64 architecture. This level of compatibility is available from only one workstation supplier, Hewlett-Packard.

## The Ultimate Design Machines

Like the other HP VISUALIZE systems, the J5000 workstation is built for people who need to solve the toughest design problems in reduced time. The HP VISUALIZE Workstation family has it all: powerful processors, the industry's fastest graphics subsystems, increased disk, RAM and I/O capabilities, and UNIX®-Windows NT® interoperability. In short, the HP VISUALIZE J5000 is the ultimate design machine.



5000

feature

advantage

benefit

### Performance

2 PA-8500 processors running at 440MHz	Gives you the power of the chip that won the "Best RISC Processor" award (Microprocessor Report's Editor's Choice)	Puts more compute and visualization power behind EDA and MDA applications; runs 2X faster than earlier J-Class systems
1.5MB on-chip cache	Minimizes system latency with the industry's largest on-chip cache	Enhances system performance with greater application speed and throughput
2GB/s memory bandwidth	Supports interactive work with large models	Delivers optimal performance for the best system performance available
2GB/s I/O peak performance	Provides fastest data transfer to I/O	Delivers excellent file server performance
Maximum main memory up to 4GB Synchronous DRAM	Supports analysis of larger models	Delivers higher application performance with less disk access
64X64 operating system and microprocessor	Large address spaces	Delivers better performance on large processes, such as full-chip simulation, logic synthesis and design rule checking
8 industry-standard PCI slots	Provides higher capability for graphics cards and other PCI I/O cards	Provides more capability for complex applications
72GB internal Hot Plug disk	Provides large capacity for applications design data	Supports faster disk access with no power-down to replace hard disks

### Graphics

HP VISUALIZE-EG graphics subsystem	Delivers leadership 2D graphics performance for EDA work, including file servers and compute farm engines	Supports 2D visualization needs at an affordable price
HP VISUALIZE- <i>fx</i> <sup>2</sup> Pro graphics subsystem with 2 HP PA-RISC geometry engines	Delivers industry's best entry-level 3D graphics performance	Supports fast visualization at an affordable price
HP VISUALIZE- <i>fx</i> <sup>6</sup> Pro graphics subsystem with 6 HP PA-RISC geometry engines	Delivers the world's fastest 3D graphics performance for MDA work	Supports faster visualization and interactive work with large 3D models

### Integration

Interoperability with Windows NT® systems	Allows UNIX® and Windows® systems to share files and data across your network	Supports your evolving computing environment; enables collaboration with users on different platforms
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### Investment Protection

New expansive tower with 8 industry-standard PCI slots	Provides more capacity for PCI I/O cards	Gives you the flexibility to expand your system
Binary compatibility with future PA-RISC and IA-64 processors	Ensures smooth transition to HP's next-generation high-performance systems	Protects your investment in applications, data and systems


**J5000 technical specifications**

<b>Central Processor</b>	
Type	PA-8500
Clock frequency	440MHz
Number of processors	2
<b>Primary Cache (On Chip)</b>	
Instruction cache	0.5MB
Data cache	1.0MB
<b>Performance</b>	
SPECint95	32.6
SPECfp95	52.3
SPECint_rate95	568
SPECfp_rate95	751
<b>Main Memory</b>	
Bus bandwidth	2GB/s
RAM type	120MHz SDRAM
Capacity	512MB-4GB
Memory slots	8 slots
<b>PCI Slots (8 total)</b>	
PCI 2X	5 slots
	1 slot power only
PCI 4X	2 slots
<b>Internal Storage Devices</b>	
Ultra2 SCSI LVD (80-pin SCA connector)	
4 drives maximum	
Hot pluggable (requires HP MirrorDisk/UK)	
Hard disk drive	9GB (10K rpm)
Hard disk drive	18GB (10K rpm)
<b>Removable Media</b>	
CD-ROM ATAPI interface	32X (internal)
3.5 in. PC Floppy drive or DDS-3 tape drive	1.44MB (internal) 12 - 24GB (internal)
<b>External Storage</b>	
NSE SCSI	
50-pin in high-density	1 port - up to 7 devices
Ultra2 SCSI LVD	
68-pin in high-density	1 port - up to 11 devices
<b>Networking</b>	
RJ45 LAN Data Rate	10/100 Base-Tx Ethernet 10/100 Mbits/sec
<b>Other I/O</b>	
Serial interface 9-pin DIN	2 ports
Parallel interface 25-pin DIN	1 port
USB (Universal Serial Bus) Series A	2 ports (keyboard and mouse only)
<b>Audio</b>	
Type	Integrated, CD-quality stereo
Inputs	Stereo line-in, MIC-in
Outputs	Stereo line-out, internal speaker, head phone

<b>Environmental Specifications</b>	
Altitude	
Operating	0-3000m (0-10,000 ft)
Non-operating	0-4500m (0-15,000 ft)
Temperature	
Operating	5 to +40 degrees C
Non-operating	-40 to +70 degrees C
Humidity	
Operating	15 to 80% (non condensing)
Vibration	
Operating random	0.21 G rms, 5-500Hz
Swept sine survival	0.5 G peak, 5-500Hz
Random survival	2.09 G rms, 5-500Hz
Safety	
UL 1950, CUL to CSA C22.2#950, and TUV GS Mark to EN60950/IEC950	
Emissions	
FCC and CISPR Class B and VCCI Class B	

<b>Physical Dimensions</b>	
Height	44.5cm (17.5 in)
Height with rack kit	48.8cm (19.2 in)
Width	34.5cm (13.6 in)
Width with rack kit	49.5cm (9.5 in)
Depth	53.3cm (21.0 in)
Depth with rack kit	80.0cm (31.5 in)

<b>Net Weight</b>	
Minimum configuration	34 Kg (74 lbs)
Fully loaded	40 Kg (88 lbs)

<b>Power Requirements</b>	
Input Current	15 Amps RMS max @ 100-120V 7.5 Amps RMS max @ 220-240V
Line Frequency	50-60Hz
Maximum Power input	1500 Watts

VISUALIZE Graphics	VISUALIZE-EG	VISUALIZE- <i>fx</i> <sup>2</sup> Pro	VISUALIZE- <i>fx</i> <sup>6</sup> Pro
Graphics Boards	4 Max	1 Max	3 Max
Max Resolution	1600x1200	1280x1024	1600x1200
Image Planes/Overlay	8/8DB Image	24 Image	24/24DB Image
Planes	8 Overlay	8 Overlay	8 Overlay
Z-Buffer	SW	24 bit HW	24 bit HW
Stencil Planes	SW	4 bit HW	4 bit HW
Alpha Planes	SW	SW	8/8DB HW*
Texture Memory	SW	SW	Optional 16MB HW +32 x 32K virtual texture cache
Color Maps			
Image Planes	2 x 256	4 x 256	2 x 4096, 2 x 256
Overlay Planes	2 x 256	2 x 256	2 x 256

\*1280 x 1024 resolution

VISUALIZE Graphics	VISUALIZE-EG	VISUALIZE- <i>fx</i> <sup>2</sup> Pro	VISUALIZE- <i>fx</i> <sup>6</sup> Pro
Xmark93	37.0	64.8	68.7
PLBwire93		334	890
PLBsur93		654	1196
ProCDRS-01		8.1	34.9
Design Review		7.0	22.7
Data Explorer		14.8	41.7
Advanced Visualizer		8.3	58.8
Lightscape		3.9	4.4

The latest information about HP VISUALIZE Workstation products is available on the World Wide Web at <http://www.hp.com/visualize>.

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