

MILEDIA FILMS

HP xw8600 Workstation becomes main engine
for postproduction



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—Michael Phillips, Producer/Editor and Co-owner of Miledia Films

HP customer case study: Independent filmmaker turns to HP xw8600 Workstation for postproduction magic previously available to only big studio productions

Industry:
Entertainment

HP recommends Windows Vista® Business.

Objective:

Enable rapid, reliable digital image processing for motion picture postproduction

Approach:

Miledia Films chooses HP Workstations for digital motion picture editing and rendering

IT improvements:

- Faster processing from combination of quad-core Intel® processors and GPU on graphics card
- Stability, reliability to support continuous rendering over several days

Business benefits:

- With faster processing, editing is more spontaneous and allows filmmaker to explore more alternatives
- Rendering times cut by half or more
- Shorter postproduction translates to lower costs, earlier completion



The art in filmmaking used to take place almost entirely on film. Now, much of the impact of moving images is added, or enhanced, in the digital realm. And the rise of powerful yet inexpensive Workstations is putting new creativity into the hands of a growing universe of independent filmmakers.

Case in point: Miledia Films' new project, *Jack in the Box*, was edited, manipulated and transformed into multiple digital formats for screening and distribution on HP xw8000 and HP xw8600 Workstations.

“HP Workstations have always been known for their reliability and stability, as well as great support,” says Michael Phillips, Producer/Editor and Co-owner of Miledia Films. “Those are critical factors for small filmmakers and make them a great match for our needs.”



Courtesy of Miledia Films' *Jack in the Box*

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Faster processing translates to faster editing, rendering

Jack in the Box was shot on video in the mini-DV (digital video) format in standard definition. All told, Phillips had some 40 hours of raw video. Moving from that footage to a finished product was a complex, multi-step process performed almost entirely on Phillips' HP Workstations.

Avid's software enables editors to use digitize "clips," designate an order for them to create a scene, and preview the edited sequence. If an editor doesn't like the scene, he can re-arrange the clips, delete some, add more, or cut the length of a clip, and then preview it again.

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Editors agree that such experimentation enables them to do better editing. When referring to complex VFX scenes that require rendering, Phillips says, "The fluidity and pace that you get while editing, rocking the picture back and forth and trying new things, is very important in the editing process. With faster processing available with an HP Workstation you get to see the scene various ways in less time. You're approaching real time. It makes editing much more spontaneous and rewarding."

Processing speed becomes even more important for rendering or processing frame by frame to include changes throughout the project. Phillips explains that after the film was completely edited, he needed to transform the standard-definition video (720 x 486 pixels in a 4:3 aspect ratio) to a high-definition video format (1920 x 1080 pixels in a 16:9 wide-screen format). This was his "up-res" conversion. Again, he turned to an HP Workstation—first the xw8000 Workstation that had been his workhorse for four years, and later in the project, a brand new xw8600 Workstation with dual quad-core 2.66 GHz Intel Xeon® processors¹ and 4GB of RAM for even faster processing.

"I needed all the processor speed I could get so I wouldn't be spending weeks waiting for the rendering to be completed," he explains. "Using the xw8600 Workstation cut rendering times by half or more."

Making the transition to hi-definition involves lengthy processing using complex algorithms designed to preserve as much of the original quality as possible. So Phillips tried a number of different options before settling on the algorithm he thought would work best for his project.

Reliability, stability enable whole-project rendering

Rendering is a time when Workstation reliability is critical. If a Workstation crashes in the midst of a rendering, hours or even days of work can be lost. It's a common problem faced by independent filmmakers

Customer solution at a glance

Primary applications

Motion picture editing/postproduction

Primary hardware

- HP xw8000 Workstation
- HP xw8600 Workstation
- HP DreamColor LP2480zx display

Primary software

- Genuine Windows XP Professional

Upgrade to genuine Windows Vista Business

- Avid Media Composer
- Qube Cinema QubeMaster Pro

HP recommends Windows Vista® Business.

who are trying to match the work of dedicated postproduction facilities.

"But with the history of reliability I had with my original HP Workstation, I had great peace of mind that I could let the project render all night and when I came in in the morning, the xw8600 Workstation would be humming along with no problems," Phillips explains. "And that's exactly what happened."

After the up-res conversion, even more processing awaited *Jack in the Box*: Scene-by-scene color correction created just the mood Phillips wanted. A digital master of the entire project is then available to create any output needed—film, high-definition Blu-Ray DVD, etc. When we last talked with Phillips, he was using Qube Cinema QubeMaster Pro software on his xw8600 Workstation to encode the film to the DCDM format, which is the standard format for exhibition in a digital cinema.

The xw8600 Workstation, Phillips says, reduces times for digital rendering and format conversion dramatically. "I'm cutting my rendering times by half or more with the xw8600 Workstation, depending on the software and whether it's fully multi-threaded," he explains. Though he's currently running under Microsoft® Windows® XP, he expects to move to the 64-bit Windows Vista soon to take advantage of more RAM.

Speed is critical in an industry where time is, almost literally, money. He explains that the filmmaking process is often likened to a race pitting time against money.

"Imagine you start with a big bag of gold and the day you start shooting, you poke a hole in it and the gold starts running out, day after day, until you're done with the film. The challenge is to get your project completed as soon as possible with the highest quality so you can stop spending money and, hopefully, start recouping your investment."

Flexibility/expandability

Another consideration for filmmakers is the ability to expand and customize the Workstation for various needs. Phillips says the HP Workstation's numerous expansion slots, and ease of access for do-it-yourselfers like him, make it particularly attractive.

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"I might want to add additional drives or devices to the system, depending on how the Workstation will be used in the postproduction process," he explains. "If I want to add Avid hardware or additional storage devices, it's very easy to do. I'm not limited by the number of slots like I would be with some other systems."

So far, Phillips has added four terabytes of e-SATA RAID storage as well as IEEE 1394 (Firewire) cards so he can take advantage of editing hardware that use



Courtesy of Miledia Films' *Jack in the Box*

IEEE 1394 connections. While Phillips is inclined to install expansion boards himself, he depends on HP support—both online and over the phone—to help him over any hurdles.

Because graphics processing is so important in motion picture rendering, Phillips chose to equip his xw8600 Workstation with the NVIDIA Quadro FX 3700 graphics card to speed graphics processing. “3D effects use the GPU on the video card for processing. So the speed enhancement I’m seeing is a combination of the Workstation’s dual quad-core processors, working in concert with the GPU on the graphics card,” he notes.

“The payoff with the speed of the HP Workstation is that I can do a lot of things essentially in real time. I might be previewing the way a color correction would work, for example, rather than having to render it. Having as much real-time capability as possible during the creative process really enhances the way you work. So the combination of the CPU and the GPU is very important to me.”

Phillips takes advantage of the Workstation’s multiple-monitor capability in several ways. During the initial editing process, he organizes individual video clips into virtual bins, and then by scene. He maintains source footage on one HP monitor, and reserves a second monitor for the editing interface itself, including previews. A third monitor is used for full-screen playback.

He routinely uses HP L2335 LCD flat panel monitors for the first two roles, and has recently added the new HP DreamColor LP2480zx display as his third monitor.

Developed in collaboration with DreamWorks Animation SKG, the DreamColor display is a fully color-calibrated monitor with a range of more than 1 billion colors in a 30-bit, LED-backlit wide-screen format.

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“When you get involved with what we call a Digital Intermediate—where you’re tweaking individual scenes for color and other details—then color becomes extremely critical. The new DreamColor display gives me the color accuracy we need for critical color judgments and final scene display.”

Looking ahead, Phillips is hoping he and his partner can develop a continuous production stream with as many as 10 films in the planning or production stages at one time. HP Workstations would be the backbone of that production infrastructure.

“With the emergence of digital motion imaging and HP Workstation technology, computers manage our whole creative world. We use them to manage projects, to process the actual images, to transform the finished product, and even to archive it,” Phillips says. “As a company, Miledia Films will continue to move

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4AA22436ENW, October 2008

