

Media & Entertainment customer story

Supercomputing creative operations at DreamWorks.

How VFX artists realized a vision with Lenovo ThinkStations, advanced by AMD.



Three decades. Two artists. One dream.

Since joining DreamWorks, visual effects (VFX) artists, Stephen Wood and Zach Glynn have been chasing the same creative freedom.

They imagined animation that deliberately moved away from realism.

A look shaped by design, not dictated by simulation.

Motion that broke perfection on purpose.

Worlds that felt hand-crafted, even at full 3D scale.

But like many boundary-breakers across the industry, their imaginations consistently outpaced the performance of their tools. And creativity moved faster than compute.

Until a breakthrough moment.

This is the story of what changed.



A creative vision that pushed the boundaries.

Stephen and Zach had a vision. They wanted to define a new visual language in 3D animation and set a new creative standard. One where their biggest ideas could be brought to life without compromise.

That creative north star took shape around a set of bold ambitions:

A true 2D/3D hybrid.

Bringing the expressiveness of hand-drawn animation into the depth and scale of a fully three-dimensional world.

Old-school craft meets new-school capability.

Combining decades of artistic technique with modern technology, without forcing one to bend to the other.

A deliberate move away from realism.

Exploring stylized, expressive visual languages that prioritize design over physical accuracy.

Every frame feels hand-drawn.

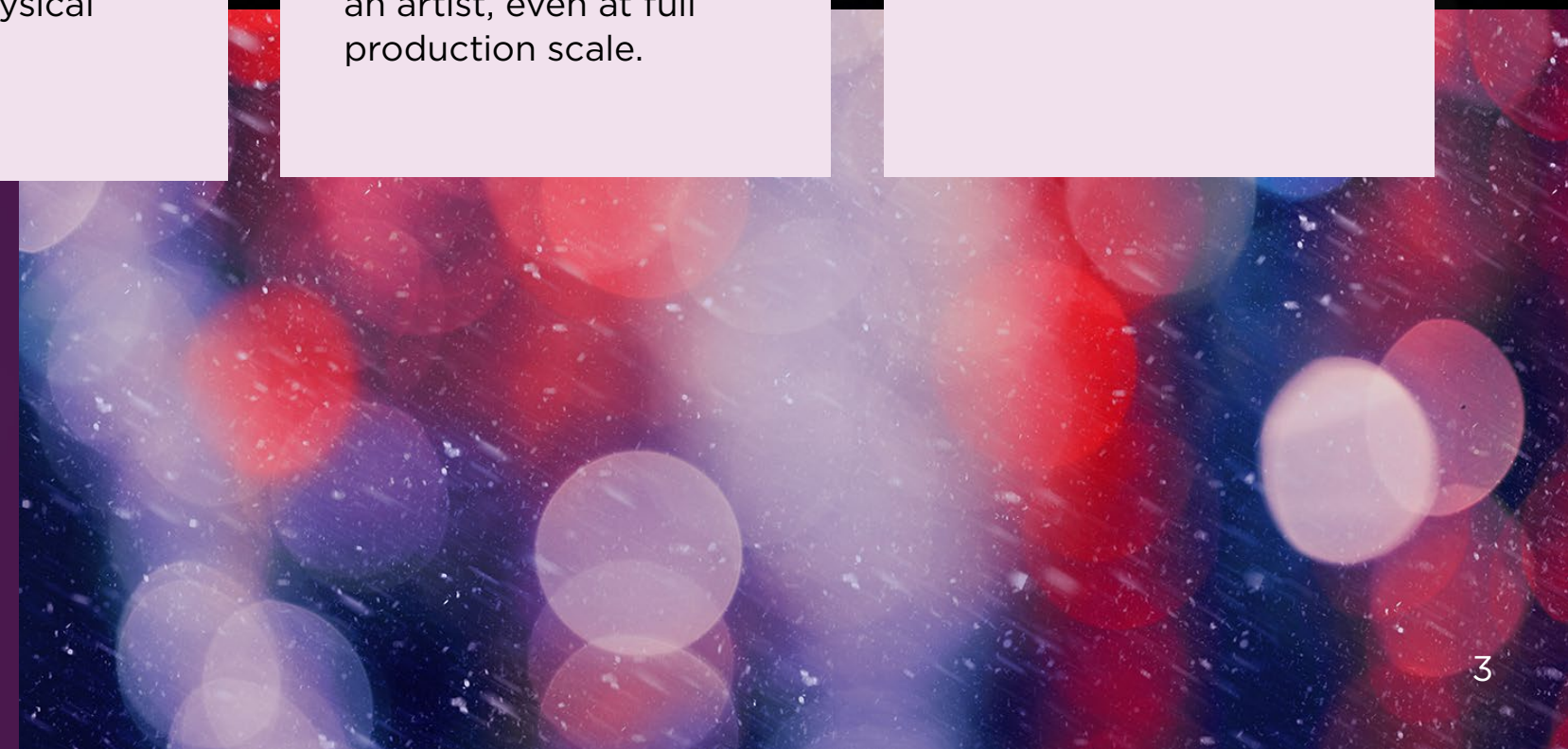
Animation that looks and moves as if each frame were shaped by an artist, even at full production scale.

Design leads. Technology follows.

Creative intent sets the direction, and tools are expected to keep up.

“The whole goal is to never have to tell an artist ‘no.’”

Kate Swanborg, SVP of Technology Communications and Strategic Alliances, DreamWorks Animation



When creativity demands more from technology.

Every attempt to bring their vision to life led Stephen and Zach back to the same crossroads. However they approached it, their technology always imposed a choice of two options.

On one side, artistry without scale.

Option A

Draw everything by hand.

**Beautiful. Expressive.
But impossible to scale.**

Frame-by-frame illustration demanded rare 2D talent and enormous time investment. And because the work didn't truly live in a 3D world, lighting, shadows and interaction had to be recreated manually, shot by shot.



On the other, scale without soul.

Option B.

Simulate everything in 3D.

Scalable. Efficient. But too perfect.

The pipeline could handle the workload, but the results felt clinical. Motion was precise and lighting behaved perfectly, but the warmth, character and imperfection that define hand-drawn animation simply weren't there.



What they needed wasn't another workaround, but a middle ground.

One powered by the right combination of technology, workflows and artistic capability.

The moment everything changed.

The turning point came with DreamWorks' film, *The Bad Guys 2*.

With Lenovo ThinkStations, advanced by AMD, DreamWorks' artists had access to supercomputer performance directly inside their creative workflows.

Finally, technology stopped setting the limits and started keeping up.

Stephen and Zach had the performance required to reach their creative north star, where ideas no longer had to be simplified or delayed just to move forward.



“I feel like I’ve been waiting my whole life for what we’re able to do now and the capabilities of what we can do now is amazing.”

Stephen Wood, Head Of Effects / FX Designer,
DreamWorks Animation



Machines that matched DreamWorks' ambition.

With Lenovo ThinkStations, advanced by AMD, DreamWorks' artists gained workstations tuned to the way they actually work. Packed with the immense power and absolute precision to handle their most demanding workflows.

Read on to see how that supercomputer performance reshaped four critical workflows.

“There are things we were able to do in The Bad Guys 2 that we've been wanting to do at DreamWorks since 1995. The technology literally just didn't exist.”

Stephen Wood



Workflow

1 Simulations reached new heights.



Smoke needed to appear hand-crafted.



Physics had to feel expressive.



And there was no time to wait.

For sequences like the rocket launch in *The Bad Guys 2*—one of the biggest sequences in the film—simulation couldn't sit in the background. It had to be shaped live, inside the full composition, while creative decisions were being made.

The process started the old-school way. A 2D artist drawing the desired motion by hand, defining the arcs, rhythm and energy of the smoke. That drawing then became the creative intent.

From there, the simulation was run using real fluid dynamics. It was pushed, pulled and dragged by the artist to match the hand-drawn forms, deliberately shaping the physics to achieve the expressive, illustrated look they wanted to achieve.

This is computationally extreme. Millions of polygons. Full-shot context. If it wasn't done in real-time, it simply wouldn't work.

With Lenovo ThinkStations, advanced by AMD, that level of performance was finally available at the artist's desk. Complex simulations could be shaped live, without stopping to render or simplify the idea.

Simulation stopped being a technical step.

It became a creative one.



“ Luckily our workstations were plenty beefy enough that we could easily do that.”

Zach Glynn, FX Supervisor,
DreamWorks Animation

Workflow

2

Iterations pushed possibilities.

1

One effect.

10

Ten shots.



No room for guesswork.

At DreamWorks, effects rarely exist in isolation. Artists often build a single effect that needs to work consistently across an entire sequence. Sometimes across ten or more shots at once.

To get that right, they need to see everything together.

Without enough processing power, iteration breaks down. Shots are opened one at a time. Changes are made in isolation. Renders become a requirement just to understand whether something works. Problems surface late, when fixes are costly and time is tight.

Working on Lenovo ThinkStations, advanced by AMD Ryzen™ Threadripper™ PRO CPUs, the artists had the parallel performance they needed to visualize effects before

rendering. Multiple shots could stay open across different desktops, allowing teams to see changes instantly, spot continuity issues early and refine decisions across the sequence as a whole.

Iteration stopped being a waiting game.

Decisions were made earlier.

And ideas moved faster.

On The Bad Guys 2, DreamWorks completed **1,302 effects tasks.**

Up from a typical 847 and in a significantly reduced schedule.



“We just had enough processing power to be able to visualize that stuff before we even rendered it, which was amazing.”

Stephen Wood

Workflow

3

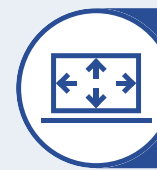
Multitasking kept up with creative flow.



Three applications.



Four ideas.



All moving at once.

A typical day for a DreamWorks' artist doesn't involve working on one thing at a time. Multiple shots develop in parallel. Houdini on one desktop. Nuke on another. Lighting, layout and reviews happening side by side.

Creative thinking doesn't happen in sequence. It happens simultaneously.

Without sufficient workstation performance, multitasking breaks down. Applications compete for resources. Playback stutters. Artists are forced to close tools or shut down shots just to keep things moving, interrupting focus and breaking momentum.

With Lenovo ThinkStations and AMD Ryzen™ Threadripper™ PRO processors, artists could run multiple compute-intensive applications at the same time and move between them with near real-time playback.

Multiple ideas stayed live.

The creative flow kept flowing.



“We talk at DreamWorks about working at the speed of our artists' imaginations. What the workstation gives them is the opportunity to capture those bursts of imagination, that nugget of inspiration.”

Kate Swanborg



Workflow

4

Collaboration brought teams closer than ever.



**Dozens
of artists.**



**Multiple
shots.**



**One creative
standard.**

At DreamWorks, creative work happens at scale. Supervising artists need visibility across multiple artists and shots at any given moment, not just to revise work but to ensure consistency across sequences, teams and the film as a whole.

That visibility has to be immediate.

Without enough workstation capacity, collaboration slows down. Supervisors are forced to rely on exports, static reviews, or delayed feedback.

Misalignment creeps in. Costly rework is required. And creative momentum is lost later in the pipeline.

Because Lenovo ThinkStations, advanced by AMD Ryzen™ Threadripper™ PRO processors, are deployed strategically across departments, supervising artists can pull up multiple live sessions at once—seeing work as it’s happening, comparing shots in real time and even jumping into a session remotely when guidance is needed.

Feedback became instant and creative standards stayed intact.

Collaboration kept up with the pace of work.

Even at DreamWorks scale.

“That level of capacity for these workstations is unbelievable. And that’s why these systems are so business critical because we’re strategically deploying them across departments.”

Kate Swanborg



Turning imagination into reality.

For DreamWorks, supercomputer performance meant finally realizing a 30-year vision.

This performance moved directly into creative workflows:

- Ideas no longer had to be simplified to keep work moving.
- Artists no longer had to choose between scale and expression.
- They no longer had to wait to see whether something was going to work.



What emerged wasn't just a new visual style, but a new creative reality.

One defined by performance without limits, where real-time rendering and complex visual effects can be tackled head-on.

By momentum that keeps work moving, even as complexity increases and ideas evolve.

By workflows tuned to the way artists actually think and create, not the other way around.

And by systems trusted at enterprise scale, built to protect ideas from concept through to final frame.

For creators everywhere, it signals something bigger. A future where technology no longer sets the limits and where imagination can be turned into reality.

Ready to supercompute your creative operations?



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