NeuralMesh™ Connects Global Artists, Shares Every Shot for Visual Effects

NeuralMesh gives distributed visual effects teams one namespace across cloud and on-prem storage, allowing artists to collaborate without data copies or version conflicts and avoid dropped frames with parallel access.

Challenges

- Millions of small frame files stall renders on metadata calls
- Dropped frames break 8K and 16K review and grading sessions
- Version conflicts from copying shots across locations and multiple creators
- Cloud storage costs climb with every gain in performance

Solution

NeuralMesh™ gives every node an equal share of the metadata, so millions of small frame files never queue on one server. Render nodes and workstations read and write across the whole cluster in parallel. Linux render farms and Mac and Windows artists access the same files over POSIX, NFS, SMB, or S3. This single namespace spans flash and object, with finished VFX shots moving to object automatically. The same system serves 8K playback and small-file renders with zero tuning.

Benefits

- Render millions of small frame files concurrently without metadata stalls
- Play back 8K and 16K sessions without dropped frames
- Share one copy of every shot in a single namespace on-prem and in the cloud
- Cut cloud storage costs by 75% without trading off performance (Parliament)

Keep Artists Creating and Budgets Intact for Visual Effects

Visual effects (VFX) work arrives in bursts. A digital short can turn in a week, a commercial takes months, an episodic series up to a year, and artists may live anywhere in the world. Studios that size infrastructure for peak demand pay for idle capacity, while those that size for the average miss deadlines when the big job lands. It's a double-edged sword.

NeuralMesh is software-defined, so the same software runs on AWS, GCP, Azure, OCI, and on-premises servers. A studio can stand up storage for a single booking, grow it while the job runs, and release it at wrap. NeuralMesh Data Replication makes a remote site's full file system visible before contents arrive, and each location pulls only the frames its jobs need.

Parliament VFX runs entirely in the cloud, with NeuralMesh in Google Cloud supporting its Autodesk Flame environments. When a producer books an artist, the team spins up a project-specific studio in the right region and shuts it down when the booking ends. That model supported **nine Super Bowl commercials** and music videos for a Taylor Swift album.

> *"NeuralMesh eliminated the trade-off between performance and cost. It delivered the **high-speed data storage performance** we required for VFX rendering without the hefty price tag."*
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> — Tom Taylor, Owner, Gunpowder LLC, technology consultant to Parliament VFX

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