



## Media & Entertainment Solution Brief

### Why Liquid

Liquid delivers the unrivaled storage performance required for modern M&E projects, and maximizes GPU flexibility faster results with incredible efficiency.

### Key Advantages

- » Accelerate time to results by delivering the exact performance storage and accelerator resources when and where applications need them.
- » Be change-ready, with powerful software that adapts real-time to evolving application needs.
- » Reduce costs with an as-a-service model and maximized resource utilization.

# Accelerate Video Production

## Introducing New Levels of Speed and Flexibility

### Overview

Modern M&E projects are extremely data-intensive, and capturing, rendering and producing content on traditional, disk-based systems wastes valuable time which consumes already tight budgets. With the rate of data only continuing to grow, the film industry demands new way to manage it that accelerates time to value.

Liquid NVMe SSD solutions deliver impressive read and write throughput and industry leading low latency response times. Applications on Liquid SSDs launch in seconds, large files load quickly, folders of images and documents can be sorted through speeds that greatly increase productivity.

GPU acceleration is essential for media production, but when they are underutilized it's quite wasteful. Liquid offers a new way to add and remove valuable resources like GPU (and NVMe) called Composable Disaggregated Infrastructure (CDI). With CDI you to provision resources to workstations and servers via software that meet an application's exact performance and capacity requirements. If resources like GPU are not being utilized on one system, simply move them to another to maximize utilization and complete tasks faster.

### Improve Composite & Tracking

Extend cache to more than 16TB, with a single Liquid Optane device, allowing compositors to work in real-time with native 8K (film) resolutions. Liquid SSDs give artist more interactive effects and manipulation in well multithreaded applications. Typically tracking is limited by a system's I/O capacity. Adding high throughput Liquid SSD transfers the bottleneck back to the CPU (or GPU), dramatically accelerating the process.

### **Support Virtual Production**

Liquid brings a unique and powerful solution to Virtual Production by providing servers access to the exact number of GPU resources required for rendering and only for amount of time they need. As workloads evolve GPU can be added or removed in real time for a more manageable and scalable rendering experience, as virtual sets continue to push more tiles with higher resolutions

### **Enable Interactive Video Editing**

Due to large capacity requirements editors get the best results by using Liquid SSDs as a new tier of memory that works as a midpoint between RAM and storage. The device is used to house temporary renders or files currently in use. This extends playback ability from DRAM to your "RAM + Liquid" providing much greater caching space.

### **Seamless Data Acquisition**

With write speeds of 6.3GB/s and read speeds of 7GB/s Liquid SSDs capture at an extremely high speed making it ideal for high speed and high-resolution camera data as well as data transcoding / encoding. Since the SSD is easy to install and move from machine to machine, SSDs can easily be rearranged depending on the task at hand.

### **Maximize Resource Utilization**

Liquid's Composable Disaggregated Infrastructure (CDI) allows valuable, idle resources like SSDs and GPUs to be reassigned to systems that need them, in real-time. Liquid allows studios and artists to connect data from one system to another in seconds, replacing slow transfers over the network. The combination of CDI and SSD enables a studio to quickly convert from 8 systems each using an attached SSD to one theater playback machine taking ownership of 8 Liquid SSDs. This enables greater resource flexibility allows studios to adjust the phase of a project or even the daily schedule, as Liquid CDI allows SSDs to be used during the day for local caching, and then re-assigned to the render farm at night. This flexibility applies to GPU resources as well.

### **Enable Faster 3D Content Creation**

The high throughput and low latency can accelerate any "load on the fly" situation as well as regular "save and load" operations. By using a Liquid SSD as a "scratch" or temporary file location the amount of RAM available to the application can essentially extend (as long as the application supports disk caching). 3D artists are now previewing their rendered work locally, especially for stereoscopic production. Liquid turn artists' workstations into proficient playback stations. Applications like Autodesk Mudbox and Pixologic Zbrush save massive amounts of information with every stroke, which can become extremely heavy to undo. Using a Liquid SSD to store this information gives artists the flexibility to undo and redo almost instantly.

### **Accelerate Procession (Rendering/GPU)**

For image processing like encoding/decoding or image analysis, massive amounts of data is streamed into the GPUs and the results must be saved. Slow I/O can be a critical bottleneck, making it impossible to take advantage of the full processing power. Those cores must be feed. Liquid SSDs provide unrivaled throughput and low latency allowing GPUs to work at peak performance.