



LIQUID DEVELOPMENT ACHIEVES SCALABILITY, HIGH PERFORMANCE

Gaming content developer collaborates globally on OpusCloud IaaS, HPE gear.

Industry

Gaming

Objective

Collaborate globally to create content for the next-generation of gaming machines

Approach

Leverage OpusCloud IaaS built on HPE servers, storage, and networking

IT matters

- Exchange large files within seconds with hundreds of collaborators worldwide
- Ensure secure global high availability with 100% uptime around the clock
- Process, store hundreds of terabytes of project data quarterly
- Gain hybrid cloud flexibility to work with dozens of differing collaborator environments

Business matters

- Create fantastically complex content for next-generation gaming machines
- Provide artistic and technical services to top-tier video game developers
- Grow business scope to encompass both production and project management
- Enable creation of game content in hybrid cloud world



Legends, Doom, Wild Star, and Hungry Shark World—Dive into any of these next-generation video games, and the world one enters is stunning in detail and fantastically complex. This is thanks in part to the 3D props, characters, animations, and effects created by the Portland (Oregon) company, Liquid Development (LD). For the massive IT resources it takes to power worldwide collaboration on game content development, LD relies on OpusCloud Infrastructure as a Service (IaaS) from HPE partner, Opus Interactive. Bringing LD into the world of hybrid cloud connectivity, Opus runs its services on a backbone of HPE servers, storage, and networking.

“HPE has always been innovative as a company and has continued to stay ahead of the next thing that’s coming—and the next five things coming after that.”

– Shannon Hulbert, CEO, Opus Interactive

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BUSINESS GROWTH DRIVES GLOBAL COLLABORATION

Liquid Development is part of Keywords Studios, a global organization of more than 50 companies that provide artistic and technical services to top-tier video game developers. LD collaborates regularly on projects with a half dozen Keyword Studios companies, leveraging both its on-site staff of approximately 60, as well as hundreds of freelance artists worldwide.

A decade ago, the gaming industry might have turned to LD for individual assets, such as guitars for a particular game. Today the company creates entire video game environments and, in addition to production services, provides project management.

“Game asset production has become a more interactive process with our clients. It’s no longer about taking an assignment, handing it off to the elves in the workshop, then delivering a finished piece,” says Tony Brinlee, IT manager of Liquid Development. “Now we collaborate with their teams to help them realize their vision. There’s a constant back and forth with files and assets as ideas are developed, executed, and refined.”

Because modern gaming consoles display highly complex models and photorealistic special effects, the files LD artists work on have grown massively—ranging from 500 MB to 1 GB, with some assets including 20 GB worth of files—with hundreds of terabytes turned over quarterly. LD works directly with clients, and their servers and environments. Project deadlines and the international scale of operations require LD to pass files securely back and forth within

seconds, at all hours. In the past, these might have taken minutes or even hours in some cases. Avoiding network downtime is also mission critical.

“To create content for next-generation gaming machines, we need the continuous ability to send our work quickly to every corner of the globe,” Brinlee adds.

GROWTH DRIVES MIGRATION TO OPUSCLOUD IAAS

Liquid Development started working with HPE service provider partner Opus Interactive in 2004. Back then, LD used Opus co-location services for storage. Over time, LD’s needs expanded along with the size and scope of its business. Staff size has more than tripled and storage needs have gone from less than 1 TB to over 100 TB—a more than 100-fold increase. Seeking greater capacity and dynamic scalability—without the management and cost overhead of owning all of its infrastructure—LD turned to OpusCloud IaaS.

OpusCloud is a managed cloud solution—developed in partnership with VMware® and HPE—in which Opus provisions all servers, storage, firewalls, load balancers, and networking components. Certified Opus engineers are responsible for housing, running, and maintaining the equipment to satisfy a 100% uptime service-level guarantee. LD pays a monthly fee for Opus services including disaster recovery and backup, network connectivity, object storage, and multicloud monitoring.





LD consumes some Opus services in a dedicated cloud model, on servers not shared with other customers, Brinlee mentions. Others are delivered in a multitenant environment. All services meet LD's performance and security requirements.

"We need a provider that can deliver scalability of capacity, performance, and power, so no matter how we grow, they can grow with us. Opus fits the bill," Brinlee says. "In addition, we need the peace of mind offered by Opus backup and redundancy capabilities. No matter what circumstances occur on a local level, we must assure our clients that their project files are safe. We also need to protect our own network and assets. We can count on Opus for total vigilance."

CORE PIT CREW APPLICATION RUNS IN HYBRID CLOUD

LD uses OpusCloud to run The Pit Crew, its custom-built, proprietary, web-based global collaboration environment combining database, file transfer protocol, and asset tracking capabilities. The Pit Crew requires massive compute power, superfast connectivity, and storage solutions for both production activities and fast-retrieval archiving. Opus built the underlying cloud services on HPE ProLiant Gen10 Servers, with HPE OneView software for

managing the blade infrastructure. The main storage is HPE Nimble Storage, which uses flash and predictive analytics to deliver high availability. The solution also leverages HPE 3PAR StoreServ all-flash data storage and Aruba Networking. For archival storage enabling quick retrieval, the OpusCloud leverages HPE Apollo Systems and HPE Scalable Object Storage with Scalify RING.

"HPE has always been innovative as a company and has continued to stay ahead of the next thing that's coming—and the next five things coming after that," says Shannon Hulbert, CEO of Opus Interactive.

"We trust Opus to understand our needs and expectations, and they have delivered," Brinlee adds. "Over the years, the HPE gear has proven its stability and performance."

MEETING CLIENT NEEDS IN ANY ENVIRONMENT

Each LD client brings different requirements, Brinlee says. Running The Pit Crew on OpusCloud brings the power and flexibility to work with differing platforms.

"Our solution with Opus allows us to work via any existing tool for file transfer/interactive communication, project management, and team interactions," he explains. "Using OpusCloud, we can meet our clients' needs on their playing grounds."



“We rely on Opus for the tools and capabilities that make LD an industry leader.”

– Tony Brinlee, IT Manager, Liquid Development

Customer at a glance

Application

The Pit Crew: Custom built game development application that combines database, file transfer protocol, collaboration, and asset tracking

Hardware

Opus IaaS:

- HPE ProLiant BL460c Gen10 Blade Servers
- HPE Apollo 4510 Systems
 - HPE Scalable Object Storage with Scality RING
- HPE Nimble Storage
- HPE 3PAR StoreServ All-Flash Data Storage
- Aruba Switches

Liquid Development on-premises:

- HPE ProLiant DL380 Gen10 Server
- Aruba Switches

Software

- HPE OneView

Services

- OpusCloud IaaS
- Opus Backup & Recovery
- Opus Network Connectivity
- Opus Enterprise Colocation Object Storage

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Furthermore, the overall services Opus provides matches IT resources to LD's processing and storage needs both in the cloud and on-premises. At its Portland headquarters, LD employs approximately 60 artists who manipulate and render large video and audio files—for example, creating video game characters and lighting them from every possible angle. Such work requires the extreme low latency enabled by on-premises technology. Opus recently assisted LD to upgrade to HPE ProLiant DL380 Gen10 Servers, connected to OpusCloud via Aruba Switches.

“They asked us to design a data center room on-prem to run the game platform for the assets they are developing, with a 10 GB uplink,” says Eric Hulbert, president of Opus Interactive. “We were able to provide a holistic solution for them—on-premises and in our data center—leveraging the powerful HPE portfolio.”

“On premises is our Microsoft Windows environment with HPE ProLiant Servers and HPE Networking, where we run a wide variety of art creation tools,” Brinlee says. “Opus houses The Pit Crew and also does backups for both systems. LD relies on Opus for the tools and capabilities that make us an industry leader.”

LD EXEMPLIFIES VALUE OF HYBRID CLOUD

The hybrid cloud model in which Liquid Development today operates enables the company to collaborate with all the major players in the video game industry—even as they evolve more dazzling effects requiring larger and larger files. A single video game asset can be worked on by many artists from multiple locations around the world to realize each customer's vision.

“It's a complex operation that requires real-time communication, rapid-fire response, and the ability to transfer huge files in seconds,” Brinlee concludes. “With Opus cloud services built on HPE gear, LD is creating some of the best video game art ever made.”

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