



Lime Wire Deploys Media Store Resulting in Time-to-Market Advantages

Azul Systems Delivers Faster Web Queries and Significant Cost Savings



INDUSTRY

Software Development and Online Media Delivery

CHALLENGE

Lime Wire needed to deliver an exceptional experience to millions of registered users, support billions of queries per month through scalability and fast response time at a lower operational cost, all while guaranteeing a consistent positive consumer experience.

SOLUTION

Azul Compute Appliances enabled Lime Wire to gain required scalability to meet their throughput challenges and provides the incremental headroom to grow as needed. Lime Wire can now scale multi-threaded applications from 4 threads to 100's of threads and has the ability to achieve real-time performance monitoring and profiling.

Founded in 2000, Lime Wire is a leader of innovative peer-to-peer (P2P) software development and solutions in the file sharing industry. Lime Wire develops powerful, sophisticated software that offers a unique information sharing business model and an unparalleled user experience. Lime Wire had aggressive plans to open a new line of business by entering into music downloads. Headquartered in New York City, the company currently employs a dedicated staff of 55, and is growing quickly as it leads the file sharing revolution.

In 2008, Lime Wire launched the LimeWire Store with over half a million songs and continues to add hundreds of thousands of songs each month. The site very quickly was hosting terabytes of media data. The web site also added several user-friendly features to advance user experience.

Lime Wire's web application is based on several open source frameworks including Spring, Wicket, Hibernate and Aspect. When deployed on Azul appliances, the application was able to take advantage of contention-free scalability of their multi-threaded application. Azul's scalable multi-core architecture achieved the high performance and scalability expectations of the Lime Wire architects.

In addition to performance and scalability benefits, the Azul solution delivered simplicity that resulted in substantial costs savings. The deployed Azul solution significantly lowered cost of system administration, rack space, electricity for servers and cooling, component maintenance, monitoring, security, and support.

EXPLOSIVE GROWTH CREATES THROUGHPUT AND DATACENTER CHALLENGES

While the explosive growth in registered users was exciting, it created a unique set of challenges for Lime Wire, a small company with finite datacenter resources.

When the company originally sized its performance and compute capacity requirements, it estimated that it would take hundreds to even thousands of servers to meet its throughput needs. This scenario was not only obviously cost prohibitive, it would have been impossible to host this much equipment in the datacenter. Facing this dilemma, Lime Wire turned to Azul Systems.

Azul Systems' appliances worked with our existing data center resources, improved manageability, and boosted our Java application performance both in terms of scalability and reduced response times without consuming additional data center floor space or power.

BUSINESS BENEFITS

- Achieved rapid time-to-market in deploying media store
- Support for billions of queries without performance glitches
- Infrastructure capable of delivering terabyte-levels of store content
- Deployed 20 x86 servers and three Azul appliances, at a fraction of the IT cost
- No additional operating or datacenter cap-ex costs incurred
- Consistently delivered on SLA's since going into production.

AZUL ELIMINATES APPLICATION PAUSES AND DELIVERS HIGH THROUGHPUT

Azul Compute Appliances complement Java application infrastructure with highly scalable compute and memory resources for Java-based applications. The Azul approach is risk free and requires no changes to applications and infrastructure. Java applications are launched from their existing conventional servers and execute on Compute Appliances through the network using Azul Virtual Machine (AVM) software, a fully-compliant Java Virtual Machine (JVM) implementation. The unique capabilities of the Azul solution enables applications to achieve extreme throughput and scalability with consistent performance, without changing the application code or architecture.

For Lime Wire, scalability is achieved by increasing the throughput and memory of each application instance, as opposed to adding more application instances in highly distributed deployments. This simplifies the application architecture dramatically and eliminates the costs and complexity associated with highly distributed architectures.

With the Azul solution, Lime Wire architects can respond faster to changing business requirements and roll out new services at an accelerated pace.

Adding to its throughput concerns was the fact that its datacenter was experiencing much larger datasets in the shared file space, often in the range of terabytes of media. Further, the launch of the LimeWire Store is constantly adding thousands of music tracks from a wide range of genres, putting additional pressure on throughput capacity.

For Lime Wire, Azul Compute Appliances provide an unmatched software and hardware-assisted solution that enables applications to transparently tap into virtually unlimited capacity over the network and reach unprecedented levels of scalability, throughput, and performance consistency. This breakthrough scalability is achieved with unique capabilities such as hardware-assisted Pauseless Garbage Collection, which eliminates the impact of garbage collection-related application pauses, and Optimistic Thread Concurrency, which minimizes the impact of scalability bottlenecks caused by memory lock contentions.

SCALABILITY, FAST RESPONSE AND LOWER COSTS

In the short time since deploying the solution, Azul has been able to demonstrate robust performance and throughput enabling fast response times even under heavy workloads. Just as impressive is how the Azul compute appliance solution has been able to deliver these benefits without increasing the datacenter footprint, which has translated into direct costs savings in cooling, space and personnel.

"As we began to build the LimeWire Store in early 2007, we knew that with over 60 million active users of LimeWire Client that application scalability, data center footprint and cost were our top issues. Few new ventures need to handle thousands of hits per second on their first day of operation, and we couldn't afford to stumble," said Jason Pelzer, project manager of the LimeWire Store. "Azul Systems' appliances worked with our existing data center resources, improved manageability, and boosted our Java application performance both in terms of scalability and reduced response times without consuming additional data center floor space or power."



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